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ANALYSIS OF CHANGES IN WINTERING BIRD NUMBERS USING THE KNOXVILLE CHRISTMAS BIRD COUNT AS A CASE STUDY

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The Audubon Christmas Bird Count (CBC) is one of the longest running Citizen Science survey projects in the world (Audubon website http://birds.audubon.org/about-christmas-bird-count, 9 Dec 2012). The CBC tradition began in 1900 when Frank Chapman encouraged readers of Bird-Lore Magazine to forego seeing how many birds they could shoot and count them instead (Trabue 1965). The number of counts has grown from 25 in 1900 to over 2000 now. While counts in the early days were on or very close to Christmas day and were not confined to a specific area, CBCs are now scheduled for a single day between 14 December and 5 January, and numbers of birds are recorded by species on that day within a 15-mile diameter circle.

The first Tennessee CBC was conducted in Knoxville on Christmas day in 1902 (Trabue 1965). The number of counts in Tennessee has increased considerably since then, with results from 33 Tennessee CBCs reported to the State Compiler in 2009 (Hoff 2010). Trabue (1965) noted Knoxville counts were conducted 1902, 1905-1909, 1911-1915, 1928-1931, 1933-1940, and 1942; and counts have continued every year since 1957.

In this paper we summarize information from the Knoxville CBC and present our

preliminary analyses of population trajectories for several species. Although we present general information from the inception of the Knoxville CBC, we focus discussion of changes in species numbers over the period from 1957-2011 because counts were conducted every year during that time period, and data on the level of effort expended each year are generally available.

METHODS

The National Audubon Society maintains Christmas Bird Count records and makes them available via its website: http://birds.audubon.org/christmas-bird-count. Tennessee Christmas Bird Count data are also published in *The Migrant*, the journal of the Tennessee Ornithological Society, and while records generally agree, there are sometimes differences due to errors in data entry, compiler acceptances, or, in some cases, failure to report complete results to Audubon. We obtained all Knoxville CBC data available from the Audubon database (National Audubon Society 2010), which included count and most effort and weather data from 1902, 1905-1909, 1911-1915, 1928-1930, 1937, 1957, 1959-1966, and 1968-2011. If count or effort data were missing, we supplemented the Audubon data with results published in *The Migrant*. Years for which we used count data from *The Migrant* included 1931, 1933-1936, 1938-1940, 1942, 1958, and 1967. We made no attempt to compare results for years in which both Audubon and *The Migrant* had data, instead treating Audubon as the authoritative source. Data on effort were mostly provided by Audubon, but information from *The Migrant* was used to fill gaps when available. Years where effort data from *The Migrant* were used to either partially or fully complete a particular year include 1931, 1936, 1938-1940, 1942, 1957, 1959-1961, 1967, 1972-1975, and 1977-1989. Similarly weather data for count years 1930, 1931, 1934-1937, 1939-1940, 1942, 1958-1961, 1967, 1972-1975, 1977, and 1978 were collected from *The Migrant*.

The Audubon database includes historic names for a number of species as well as cases where individuals were not specified to species (i.e., crow sp.). We corrected names from the database to match current nomenclature of the American Ornithologists' Union (AOU), and where we could confidently eliminate other possibilities, we assigned "sp" records to the appropriate species. We reassigned records for bluebird sp. to Eastern Bluebird (*Sialia sialis)*, chickadee sp. to Carolina Chickadee (*Poecile carolinensis*), cowbird sp. to Brown-headed Cowbird (*Molothrus ater*), crow and crow sp. to American Crow (*Corvus brachyrhynchos*), dove sp. to Mourning Dove (*Zenaida macroura*), goldfinch sp. to American Goldfinch (*Spinus tristis*), junco sp. to Dark-eyed Junco (*Junco hyemalis*), kingfisher sp. to Belted Kingfisher (*Megaceryle alcyon*), phoebe sp. to Eastern Phoebe (*Sayornis phoebe*), Purple Grackle and grackle sp. to Common Grackle (*Quiscalus quiscula*), meadowlark sp. to Eastern Meadowlark (*Sturnella magna*), screech-owl sp. and Eastern Screech-Owl/Western Screech-Owl to Eastern Screech-Owl (*Megascops asio*), shrike sp. to Loggerhead Shrike (*Lanius ludovicianus*), titmouse sp. to Tufted Titmouse (*Baeolophus bicolor*), and towhee sp. to Eastern Towhee (*Pipilo erythrophthalmus*). We did not assign *Accipiter* sp., *Buteo* sp., blackbird sp., dowitcher sp., duck sp., grebe sp., loon sp., nuthatch sp., scaup sp., or wren sp.

to species since these could refer to more than one species.

Christmas Bird Counts are conducted on a single day, but birders regularly report "count week" species, those found within three days before or after the count day. Audubon includes count week birds in their database with number of individuals listed as "0". While these records represent whether or not a particular species was present that week, "count week" birds were not considered in the analyses presented here.

Any detailed evaluation of count data and changes in species numbers over time must take into account varying levels of effort in collecting the data (Tanner 1985, Link and Sauer 1999). While effort data available includes number of participants, number of feeder watchers, number of parties, and number of party hours and miles by car, foot, horse, boat, owling, and feederwatching for most recent years, many older counts are limited to information on number of participants and/or total hours in the field. In the initial investigations reported in this paper we use Number of Party Hours as our measure of effort for a given year, and detailed analyses focus on data from 1957-2011. We use Generalized Additive Models (GAM) to account for varying effort over the years (Fewster et al. 2000; Ingersoll et al. 2013).

GAMs are typically used for data that exhibit non-linearity of an irregular form, such as trajectories that cannot be expected to conform to a simple quadratic structure due to some well understood underlying mechanism. We understand *a priori* that the trajectory of a projectile should assume a particular shape, but we cannot say the same about the shape of a population trajectory over time other than that it may exhibit internal extrema such as a maximum, and so deviate from linearity. We allow the GAM to choose a parsimonious shape to describe and simplify the trajectory.

The GAMs adjusted the number of individuals for species *i* at time *t*. The formula for the terms of the global model is as follows:

$$E[y_{it}] = g(u_i + s_1(Effort) + s_2(Year)) \qquad \text{(Eqn. 1)}$$

For the model above, $E[y_{it}]$ is the expected count for species *i* at time (year) *t*, u_i is the mean count for species *i*, and s_1 and s_2 are smoothing functions for *Effort* and *Year*. Smoothing functions are used because population trajectories against time are not necessarily linear. Smoothing aids in finding the most likely location of the maximum while smoothing out the most erratic extremes. The selected link function for counts is log, and *g* is the inverse of the selected link function to transform model results back to counts.

The global model was modified to find the final model for the species selected (Ingersoll et al., 2013). The utility including smoothing functions (cubic regressions splines) was first assessed to observe temporal variation in the fixed effects for the final model for each species. For this to be done, four candidate models were identified *a priori* comprising only of smoothed and unsmoothed versions of the explanatory variables (*Effort* and *Year*). The candidate models were generalized with quasi-Poisson distributed errors. The default maximum smoothing basis dimension (k=15) was used for this analysis. Akaike's information criterion (AIC) with the statistical computing language R version 2.15.2

was then used to select the best candidate model (R Development Core Team 2012). The explanatory variables from the selected model for each species were used as fixed effects in the models for that particular species.

The GAMs accounted for the variation in effort data to produce plots that represent the relative bird populations over a particular period of time (1957-2011, count periods 58-112). In all cases the GAM with effort and year provided a better fit to the count data than a simple linear model with effort only. For this summary, GAMs were used only to analyze six species (Fig. 1-6).

RESULTS AND DISCUSSION

Knoxville has had a Christmas Bird Count every year since 1902 except years 1903, 1904, 1910, 1916-1927, 1932, 1941, and 1943-1956. The number of observers has ranged from just one in the early years to as many as 43 in 2004 and 2007 (Count periods 105 and 108 in Table 1). Effort as measured by number of party hours has also been quite variable, even just within the last 20 years (Table 1). A cumulative total of 161 species have been observed on count day over the 79 years for which records were found [Table 2, but note Sora (*Porzana carolina*) record from 2005 that is not included in Audubon database would bring the total to 162 species]. Just looking at the period from 1957-2011, the number of species detected on count day has ranged between 56 and 102 with the record occurring in 2008 (count period 109, Table 1), and finding fewer than 90 species is now considered an "off" year. Forty species have been seen on only one or two counts (species names bolded in Table 2). Many of these are migrants for which few wintering records exist [i.e., Black-and-white Warbler (*Mniotilta variaII*) and Northern Waterthrush (*Parkesia noveboracensis*) or northern birds that rarely venture this far south, such as Common Redpoll (*Acanthis flammea*)]. Thirty-four species have been reported every year since 1957, but no species have been observed every year since 1902 (Tufted Titmouse was missed only in 1908). Table 2 lists all species observed and indicates by decade the proportion of counts on which they were found.

Species that used to be rare or nonexistent on the Knoxville count but have increased and become regular include Canada Goose (*Branta canadensis*), Northern Shoveler (*Anas clypeata*), Double-crested Cormorant (*Phalacrocorax auritus*), Great Egret (*Ardea alba*), Black-crowned Night-heron (*Nycticorax nycticorax*), Black Vulture (*Coragyps atratus*), Bonaparte's Gull (*Chroicocephalus philadelphia*), Brown-headed Nuthatch (*Sitta pusilla*), and House Finch (*Haemorhous mexicanus*), among others (Table 2). The causes for these changes are not clear, but range expansion may explain the increase in frequency of detections for some (i.e., nuthatch and House Finch).

While some species have become more regular on the count, others, such as Northern Bobwhite (*Colinus virginianus*), Herring Gull (*Larus argentatus*), Loggerhead Shrike, Horned Lark (*Eremophila alpestris*), and Bewick's Wren (*Thryomanes bewickii*) have become much less frequent. The disappearance of Bewick's Wren across the eastern United States is well documented. Land-use changes, particularly the loss of open and possibly wetland habitats,

may be a factor in the reduced numbers found within the count circle for several species.

Red-winged Blackbird (*Agelaius phoeniceus*), Rusty Blackbird (*Euphagus carolinus*), Common Grackle, Brown-headed Cowbird, and European Starling (*Sturnus vulgaris*) also appear to have dropped off in numbers. Numbers have always been variable for these species with large flocks observed some years. In the 1970s, 1980s, and early 1990s it was not unusual to have 1000s or even tens of 1000s of individuals of these species as a group. More than 1,000 Common Grackles were reported half the years in the 1970s and 1980s with a peak at 100,000 in 1979, but only one year since 1994 has reported more than 1,000 (4795 in 2010). Fifteen thousand Brown-headed Cowbirds were reported in 1983 but never more than 46 from 1987-2011. Over 29,000 Red-winged Blackbirds and 2,000,000 European Starlings were counted in 1993. From 2000-2011 Red-winged Blackbird numbers ranged from 0-429 and starling numbers ranged from 1,222-10,167. Only one year since 1995 (10,167 in 2001) listed more than 10,000 starlings. All five of these species were found on 90-100% of counts in the 1960s and 1970s, and all but Rusty Blackbird were found on all counts in the 1980s (Table 2). Rusty Blackbirds were found on only 40% of the counts in the 1990s and 2000s, and Brown-headed Cowbirds were found only on 50% and 70% in those decades, respectively.

We selected six species for more detailed evaluation of population changes, two for which raw count data suggested increasing numbers over all or part of the period from 1957-2011 [Red-shouldered Hawk (*Buteo lineatus)* and Purple Finch (*Haemorhous purpureus*)], two with clearly decreasing numbers (Northern Bobwhite, Loggerhead Shrike), and two for which raw count data appeared fairly consistent (Eastern Bluebird, Tufted Titmouse). The expected count numbers based on GAMs that account for variation in effort (number of party hours) are plotted in Fig. 1-6. For each plot, a solid line indicates the expected sightings if effort had remained constant throughout the time span (1957-2011). The dotted lines display the 95% confidence interval around the expected value.

Figure 1 shows the adjusted plot for the Red-shouldered Hawk. Red-shouldered Hawks have shown a clear increase in numbers on the Knoxville count since the 1970s. Nicholson (1997) described them as a relatively common hawk of forested areas in the region but noted that prior to the 1930s Albert Ganier considered them very rare in East Tennessee. Breeding Bird Survey data suggest Red-shouldered Hawks increased steadily in Tennessee from 1966 through 2010 although increases are less clear in the last decade (Sauer et al. 2011). While reforestation of former agricultural lands may have increased habitat availability across the region, it is notable that the gradual increase in hawk numbers began shortly after the use of the pesticide DDT was banned.

Purple Finches are a winter finch seen regularly at feeders in the Knoxville area, especially during harsh winters. Numbers can be quite variable. In the 1960s it was not unusual for 50 or more to be recorded on the Knoxville CBC. There was a clear increase in numbers in the late 70s and early 80s with a number of years reporting 100-200 Purple Finches. However, since then numbers have declined considerably, with no more than 30 on any count since 1990, and none at all in 2007. This pattern is apparent in the GAM plot for Purple Finch shown in Figure 2. Purple Finches, formerly regular but variable on the Memphis CBC,

yielded discouraging numbers in the 1990s and early 2000s (Peeples 2004). Interestingly, House Finches appeared in the early 1980s on both the Memphis and Knoxville CBCs and increased substantially through the 1990s, raising the question whether House Finch numbers could be a contributor to the reduction in numbers of Purple Finches reported.

Figure 3 shows that Northern Bobwhite populations in the Knoxville area have decreased dramatically since around 1965. This decline in wintering bobwhite numbers mirrors the trend noted state- and even region-wide and documented in Breeding Bird Surveys (Sauer et al. 2011). Peeples (2004) summarized the first 75 years of the Memphis CBC and noted a major drop in bobwhite numbers through 2002. Alterations in land use because of urbanization, changes in agricultural practices and habitat fragmentation likely have played a major role in this decline (Williams 2004). Although we have not yet quantified land use change within the Knoxville CBC circle, there has been a considerable shift from a more rural to a more urban/suburban landscape over the years as the city of Knoxville and nearby towns have grown.

Loggerhead Shrikes have also shown a dramatic decline within the Knoxville CBC (Fig. 4). It was not unusual to find 10-20 shrikes in the 1960s, but from 1997-2011 no more than one shrike was reported in any one year, and none were found in eight of those 15 years. Yosef (1996) noted that Loggerhead Shrikes have declined continent-wide and listed changes in land-use practices, spraying of biocides and competition with more human-tolerant species as major contributing factors. The shift in land-use across the Knoxville CBC circle from an agricultural to a suburban landscape has likely affected shrike numbers. For birds associated with grassland or agricultural habitats pesticide use and toxicity may be an important factor in population declines (Mineau and Whiteside 2013).

Eastern Bluebird is an example of a species that has for the most part maintained a stable population within the Knoxville CBC (Fig. 5). While there is some fluctuation in the effort-adjusted count numbers since 1957, no dramatic changes were observed. Bluebirds have no doubt benefited from availability of nesting boxes in suburban yards as well as mild winters in recent years. Severity of winter weather may be the major factor influencing non-migratory bluebird populations in areas where suitable habitat is available (Pitts 1981).

The GAM plot for Tufted Titmouse counts indicates a gradual increase since 1975 (Fig. 6). Data for Carolina Chickadee (not shown) show a similar pattern. These species are common feeder birds, and the number of households participating in bird feeding has increased nationwide since the 1970s (Robb et al. 2008). Supplementary feeding may benefit populations of these and other birds that visit feeders, increasing adult survival during the winter and possibly reproductive success (but see Robb et al. for potential negative effects as well). Both chickadee and titmouse populations have shown slow increases in Tennessee from 1966-2010 (Sauer et al. 2011). Note that the plot of raw count numbers for titmice (open circles in Fig. 6) suggests a more rapid increase whereas the GAM, which accounts for variation in effort by year, is more gradual. Effort in the 2000s averaged 120 party hours per count compared to 100 in the 1980s and 91 in the 1990s, so the higher numbers of titmice on counts in the 2000s are not surprising but also not indicative of a rapid population increase.

Brown-headed Nuthatch is an example of a species that was not found historically but has become regular. Brown-headed Nuthatches were not observed on the Knoxville CBC from 1957-2001, but they have been reported every year since 2002 with 9-19 individuals 2005-2011. This is in keeping with the recent range expansion of this species noted by Roy et al. (2001) and Renfrow (2003). Brown-headed Nuthatches are a bird of southeastern pine forests that first occurred in Tennessee in Hamilton County in 1968 (Renfrow 2003) [Note: the record of nuthatches reported on the 1914 count was not adequately documented (Trabue 1965)]. They prefer open loblolly and short-leaf pine (*Pinus taeda* and *P. echinata*) forest, but they also occur in Virginia pines *P. virginiana* (Nicholoson 1997). The recent establishment of populations in Tennessee may be related to loss of habitat in other parts of their range due to a resurgence in logging pine forest, effects of pine bark beetles on pine stands and periods of drought (Renfrow 2003). The increase in pine plantations in Tennessee over the past century, and their subsequent maturation, could explain the spread of nuthatches and their appearance in areas of suitable habitat within the Knoxville count circle.

Our examination of population trends has focused on effects of effort as measured by number of party hours in the field, but we acknowledge that there are many other sources influencing variability in count numbers from year to year. Count numbers are influenced not only by the number of hours groups spend birding but also by characteristics of the groups themselves, which may fluctuate from year to year. Number of participants, parties and party hours as well as time and miles spent on foot, by car and at feeders may be important factors, along with weather on count day, weather in the season leading up to the count, date of the count and location of the count. Following the 100th CBC, the count period was expanded and fixed at December 14 – January 5 to help limit effects due to date, and even historic Knoxville counts have fallen in that period. However, count location has varied. The first count in 1902 was conducted along what is now Magnolia Avenue, and other early counts were at various places in the vicinity of Knoxville. In the 1950s and 1960s the area became a fixed 15-mile diameter circle centered in west Knoxville at the intersection of Oak Ridge Highway and Ball Camp Pike or Oak Ridge Highway and Third Creek, and eventually it was moved to its current center at the intersection of Kingston Pike and Ebenezer Road (35° 54.8' N, -84° 4.8' W) in 1970.

Future investigations will expand upon the work presented here, developing GAMs for a larger number of species and incorporating additional measures of effort and weather data into the models. In addition, we hope to expand beyond our initial Knoxville CBC case study, including data from CBCs across Tennessee and gaining a regional perspective on possible changes in wintering bird distributions.

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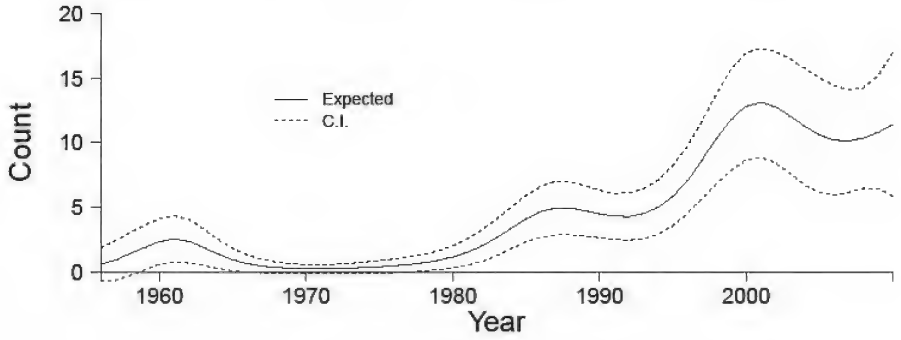

Figure 1. Plot of the expected number of Red-shouldered Hawks by year (with 95% confidence limits), adjusting for survey effort based on the General Additive Model

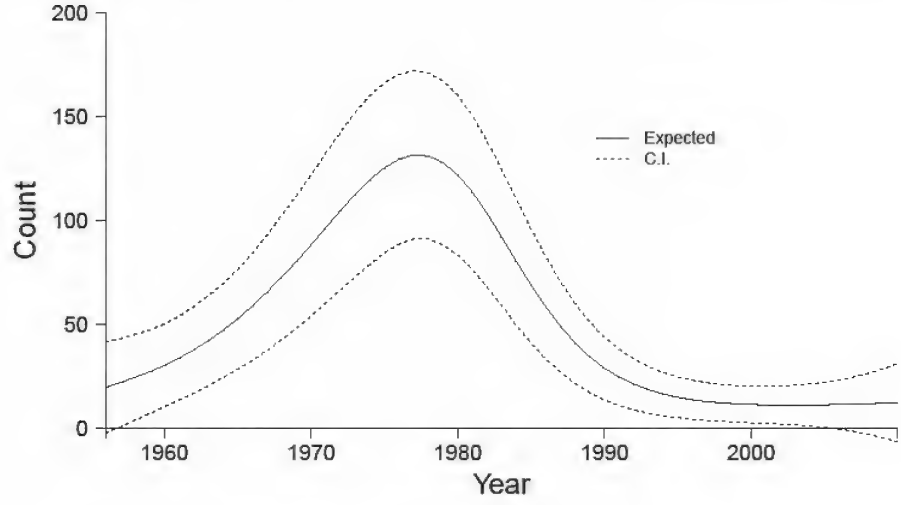

Figure 2. Plot of the expected number of Purple Finches by year (with 95% confidence limits), adjusting for survey effort based on the General Additive Model developed

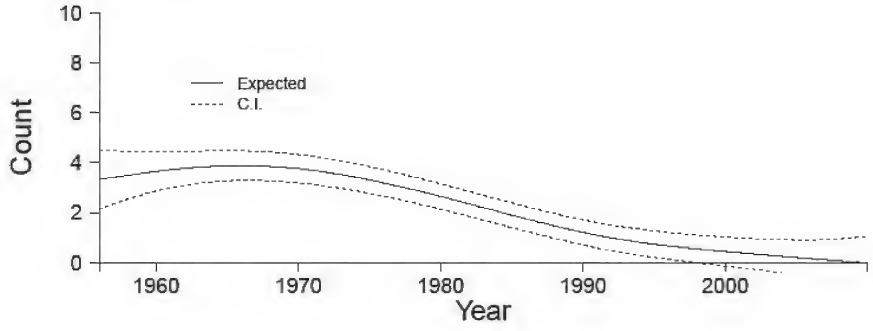

Figure 3. Plot of the expected number of Northern Bobwhites by year (with 95% confidence limits), adjusting for survey effort based on the General Additive Model developed using count data from the Knoxville CBC, 1957-2011.

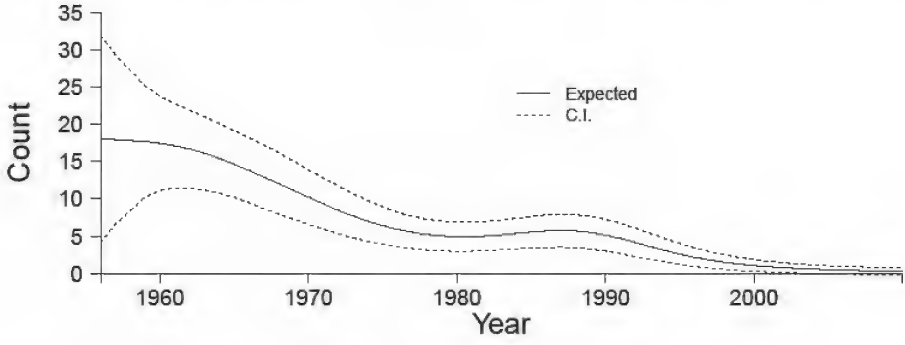

Figure 4. Plot of the expected number of Loggerhead Shrikes by year (with 95% confidence limits), adjusting for survey effort based on the General Additive Model

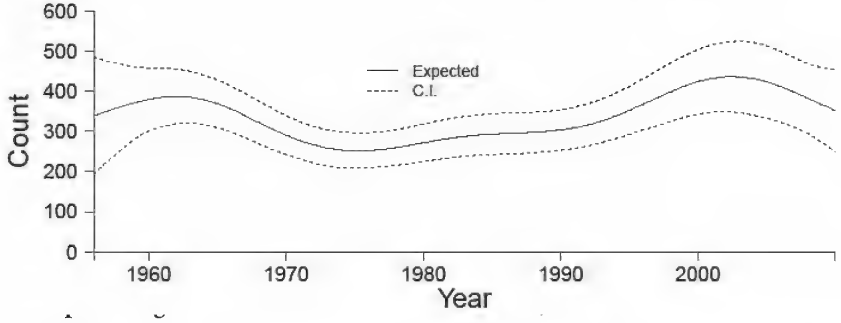

Figure 5. Plot of the expected number of Eastern Bluebirds by year (with 95% confidence limits), adjusting for survey effort based on the General Additive Model

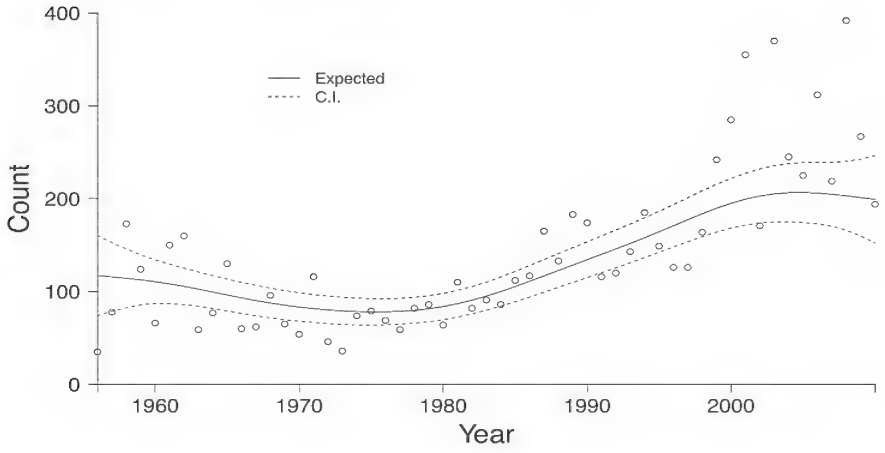

Figure 6. Plot of the expected number of Tufted Titmice by year (with 95% confidence limits), adjusting for survey effort based on the General Additive Model developed using count data from the Knoxville CBC, 1957-2011. Open circles are raw count data superimposed over the results of the GAM.

Table 1. Summary of effort and species richness for Knoxville Christmas Bird Counts from 1902 to 2011 (count periods 3-112).

Period	Year	Count date	Observers	Parties	Party hrs	Species count
3	1902	12-01 [a]	1	1	2	5 [b]
6	1905	12-25	1	1	2	5
7	1906	12-25	1	1	4	5 [b]
8	1907	12-26	1	1	7.5	9 [c]
9	1908	12-26	1	1	3	7
10	1909	12-26	1	1	6	12 [d]
12	1911	12-25	1	1	5	9 [e]
13	1912	12-25	2	1	5	9 [e]
14	1913	12-26	1	1	6.5	12
15	1914	12-25/12-26	2	3	.	50
16	1915	12-26	1	1	4	10
29	1928	12-22	8	.	.	46
30	1929	12-22	8	.	.	49 [f]
31	1930	12-21	5	.	.	42
32	1931	12-27	5	1	8	40

Period	Year	Count date	Observers	Parties	Party hrs	Species count
34	1933	12-24	6	.	.	47
35	1934	12-22	10	.	.	57
36	1935	12-22	7	.	.	46
37	1936	12-27	6	.	.	51
38	1937	12-26	8	7	.	44
39	1938	12-26	4	3	.	36
40	1939	12-29	2	1	7	38
41	1941	01-01	10	5	10	47
43	1943	01-03	13	7	25	47
58	1957	12-29	12	.	30	56
59	1958	12-28	16	10	49	57
60	1959	12-27	17	10	.	67
61	1961	01-02	19	10	88	70
62	1962	01-01	8	7	56	56
63	1962	12-23	19	.	110	60
64	1963	12-22	22	.	116	85
65	1964	12-27	11	.	62	65
66	1965	12-26	21	.	63	69
67	1966	12-26	17	.	81	70
68	1967	12-23	17	11	95	66
69	1968	12-29	21	10	80	74
70	1969	12-21	18	.	82	68
71	1970	12-27	21	.	81	80
72	1971	12-19	10	.	52	71
73	1972	12-17	20	12	98	79
74	1973	12-16	13	9	91	78
75	1974	12-15	10	7	57.5	71
76	1975	12-28	22	11	73.5	84
77	1976	12-19	21	.	85	76
78	1977	12-18	21	10	84	81
79	1978	12-17	27	13	97	78
80	1979	12-16	16	9	70	72
81	1980	12-21	16	11	81	83
82	1981	12-20	29	12	95	82
83	1982	12-18	31	13	120	84
84	1983	12-18	32	13	97	88

Period	Year	Count date	Observers	Parties	Party hrs	Species count
85	1984	12-16	27	14	122	81
86	1985	12-21	26	12	104	89
87	1986	12-20	27	14	97	79
88	1987	12-20	32	14	106	83
89	1988	12-18	27	14	106	80
90	1989	12-17	21	13	72	83
91	1990	12-16	23	17	90	82
92	1991	12-22	24	14	95.5	87
93	1992	12-19	25	13	86.75	77
94	1993	12-19	24	15	101	82
95	1994	12-18	31	14	87	85
96	1995	12-17	28	17	130.25	91
97	1996	12-22	33	16	112.75	82
98	1998	01-04	27	13	50	84
99	1999	01-03	21	12	56.75	83
100	2000	01-02	36	16	100.25	94
101	2000	12-31	22	14	103.25	94
102	2002	01-05	40	15	119.5	90
103	2003	01-04	35	20	115.75	94
104	2004	01-03	35	19	115.5	86
105	2005	01-02	43	23	141.25	96
106	2005	12-31	40	22	124.5	91 [g]
107	2006	12-30	29	19	97.25	92
108	2008	01-05	43	24	145.2	100
109	2009	01-03	37	21	117.25	102
110	2010	01-02	41	21	130	91 [h]
111	2011	01-02	40	23	134.75	99
112	2011	12-31	34	19	105.31	88

"." indicates that information was not available.

[a] Audubon lists count date as Dec 1, but questionable given all other dates by the same observer were later in December.

[b] Species count is 6 if Wren sp. is included.

[c] Species count is 10 if Wren sp. is included.

[d] Species count is 13 if Wren sp. is included.

[e] Species count is 10 if Nuthatch sp. is included.

[f] Species count is 50 if Loon sp. is included.

[g] Sora was observed on this count but is not included in the 91 species reported to Audubon (K. Dean Edwards, Pers. Comm.).

[h] Species count is 92 if Scaup sp. is included.

Table 1. Summary of effort and species richness for Knoxville Christmas Bird Counts from 1902 to 2011 (count periods 3-112).

Period	Year	Count date	Observers	Parties	Party hrs	Species count
3	1902	12-01 a	1	1	2	5 b
6	1905	12-25	1	1	2	5
7	1906	12-25	1	1	4	5 b
8	1907	12-26	1	1	7.5	9 c
9	1908	12-26	1	1	3	7
10	1909	12-26	1	1	6	12 d
12	1911	12-25	1	1	5	9 e
13	1912	12-25	2	1	5	9 e
14	1913	12-26	1	1	6.5	12
15	1914	12-25/12-26	2	3	.	50
16	1915	12-26	1	1	4	10
29	1928	12-22	8	.	.	46
30	1929	12-22	8	.	.	49 f
31	1930	12-21	5	.	.	42
32	1931	12-27	5	1	8	40
34	1933	12-24	6	.	.	47
35	1934	12-22	10	.	.	57
36	1935	12-22	7	.	.	46
37	1936	12-27	6	.	.	51
38	1937	12-26	8	7	.	44
39	1938	12-26	4	3	.	36
40	1939	12-29	2	1	7	38
41	1941	01-01	10	5	10	47
43	1943	01-03	13	7	25	47
58	1957	12-29	12	.	30	56
59	1958	12-28	16	10	49	57
60	1959	12-27	17	10	.	67
61	1961	01-02	19	10	88	70
62	1962	01-01	8	7	56	56
63	1962	12-23	19	.	110	60
64	1963	12-22	22	.	116	85
65	1964	12-27	11	.	62	65
66	1965	12-26	21	.	63	69
67	1966	12-26	17	.	81	70
68	1967	12-23	17	11	95	66
69	1968	12-29	21	10	80	74
70	1969	12-21	18	.	82	68
71	1970	12-27	21	.	81	80

Period	Year	Count date	Observers	Parties	Party hrs	Species count
72	1971	12-19	10	.	52	71
73	1972	12-17	20	12	98	79
74	1973	12-16	13	9	91	78
75	1974	12-15	10	7	57.5	71
76	1975	12-28	22	11	73.5	84
77	1976	12-19	21	.	85	76
78	1977	12-18	21	10	84	81
79	1978	12-17	27	13	97	78
80	1979	12-16	16	9	70	72
81	1980	12-21	16	11	81	83
82	1981	12-20	29	12	95	82
83	1982	12-18	31	13	120	84
84	1983	12-18	32	13	97	88
85	1984	12-16	27	14	122	81
86	1985	12-21	26	12	104	89
87	1986	12-20	27	14	97	79
88	1987	12-20	32	14	106	83
89	1988	12-18	27	14	106	80
90	1989	12-17	21	13	72	83
91	1990	12-16	23	17	90	82
92	1991	12-22	24	14	95.5	87
93	1992	12-19	25	13	86.75	77
94	1993	12-19	24	15	101	82
95	1994	12-18	31	14	87	85
96	1995	12-17	28	17	130.25	91
97	1996	12-22	33	16	112.75	82
98	1998	01-04	27	13	50	84
99	1999	01-03	21	12	56.75	83
100	2000	01-02	36	16	100.25	94
101	2000	12-31	22	14	103.25	94
102	2002	01-05	40	15	119.5	90
103	2003	01-04	35	20	115.75	94
104	2004	01-03	35	19	115.5	86
105	2005	01-02	43	23	141.25	96
106	2005	12-31	40	22	124.5	91 g
107	2006	12-30	29	19	97.25	92
108	2008	01-05	43	24	145.2	100
109	2009	01-03	37	21	117.25	102
110	2010	01-02	41	21	130	91 h
111	2011	01-02	40	23	134.75	99
112	2011	12-31	34	19	105.31	88

"." indicates that information was not available.

a Audubon lists count date as Dec 1, but questionable given all other dates by the same observer were later in December.

b Species count is 6 if Wren sp. is included.

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f Species count is 50 if Loon sp. is included.

g Sora was observed on this count but is not included in the 91 species reported to Audubon (K. Dean Edwards, Pers. Comm.).

h Species count is 92 if Scaup sp. is included.

Table 2. Species reported on Knoxville CBCs in the 1902-2011 timeframe (count periods 3-112) and the proportion of counts conducted each decade on which they were observed.

	Count period												
Species	3-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	111-112	Counts Reported
Counts reported													
Snow Goose	.	.	.	.	.	33	.	.	20	10	30	50	8
Canada Goose	.	20	.	.	.	.	20	70	100	100	100	100	42
Mute Swan	.	.	.	.	.	.	.	.	.	10	10	.	2
Tundra Swan	.	.	.	.	.	.	.	.	20	.	10	.	3
Wood Duck	.	20	.	.	.	33	10	30	50	100	100	50	32
Gadwall	.	.	.	.	.	.	70	80	100	100	100	100	47
American Wigeon	.	.	.	.	.	33	40	50	60	30	70	50	27
American Black Duck	.	.	.	11	.	.	60	80	80	80	90	50	41
Mallard	.	.	100	44	.	100	60	100	100	100	100	100	57
Blue-winged Teal	.	20	.	.	.	.	.	20	.	10	20	50	7
Northern Shoveler	.	.	.	.	.	.	10	20	10	40	100	100	20
Northern Pintail	.	.	.	.	.	.	10	30	20	50	40	50	16
American Green-winged Teal	.	20	.	22	.	.	.	20	20	50	60	100	20
Canvasback	.	.	.	.	.	.	10	60	.	.	10	50	9
Redhead	.	.	.	.	.	.	.	30	30	30	50	100	16
Ring-necked Duck	.	.	.	11	.	.	70	80	90	90	100	100	46
Greater Scaup	.	.	.	.	.	.	10	.	.	.	10	.	2
Lesser Scaup	.	.	.	.	50	33	40	100	70	50	70	50	36
White-winged Scoter	.	.	.	.	.	.	.	10	10	.	.	.	2
Long-tailed Duck	.	.	50	.	.	.	.	.	.	.	.	.	1
Bufflehead	.	.	.	.	.	.	40	60	90	90	60	100	36
Common Goldeneye	.	.	.	.	.	33	60	70	50	30	30	.	25
Hooded Merganser	.	.	50	11	50	33	50	80	100	100	100	100	49

Species	3-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	111-112	Counts Reported
Common Merganser	.	.	.	.	.	33	20	60	30	30	20	.	17
Red-breasted Merganser	.	.	.	.	.	.	.	40	40	20	10	.	11
Ruddy Duck	.	.	.	.	.	.	10	40	40	10	50	.	15
Northern Bobwhite	.	20	100	67	50	67	100	90	80	30	20	.	44
Ruffed Grouse	.	.	.	.	.	.	.	.	.	10	.	.	1
Wild Turkey	.	.	.	.	.	.	.	.	.	.	70	100	9
Red-throated Loon	.	.	.	.	.	.	.	.	.	.	10	.	1
Common Loon	.	.	.	.	.	.	.	40	40	60	40	50	19
Pied-billed Grebe	.	20	50	22	.	100	30	100	100	100	100	100	52
Horned Grebe	.	.	.	.	.	.	50	80	90	90	100	100	43
Double-crested Cormorant	.	.	.	.	.	.	10	20	20	70	100	100	24
Great Blue Heron	.	.	50	44	100	100	100	100	100	100	100	100	62
Great Egret	.	.	.	.	.	.	.	.	20	100	70	100	21
Little Blue Heron	.	.	.	.	.	.	.	10	.	.	.	.	1
Cattle Egret	.	.	.	.	.	.	.	.	.	.	10	.	1
Green Heron	.	.	.	.	.	.	20	20	30	10	.	.	8
Black-crowned Night-Heron	.	.	.	.	.	.	.	10	80	100	90	100	30
Black Vulture	.	.	.	.	50	33	.	.	30	60	100	100	23
Turkey Vulture	33	20	50	44	.	33	20	20	40	80	100	100	37
Osprey	.	.	.	.	.	.	.	10	.	.	20	50	4
Bald Eagle	.	.	.	.	.	.	.	30	30	60	90	100	23
Northern Harrier	.	.	50	22	.	.	40	10	60	40	60	100	26
Sharp-shinned Hawk	.	20	.	33	.	.	40	80	80	100	100	100	46
Cooper's Hawk	.	20	100	33	50	67	70	40	100	100	100	100	52
Northern Goshawk	.	.	.	.	.	.	.	.	10	.	.	.	1
Red-shouldered Hawk	.	.	.	11	.	67	70	20	80	100	100	100	42
Broad-winged Hawk	.	.	.	11	.	.	.	.	.	.	.	.	1
Red-tailed Hawk	.	20	.	33	.	100	100	100	100	100	100	100	59

Species	3-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	111-112	Counts Reported
Rough-legged Hawk	.	.	.	.	.	.	.	.	.	.	10	.	1
Virginia Rail	.	.	.	.	.	.	.	10	.	.	.	.	1
American Coot	.	.	100	11	.	33	50	100	100	100	100	100	51
Sandhill Crane	.	.	.	.	.	.	.	.	.	20	70	.	9
Semipalmated Plover	.	.	.	.	.	.	10	.	.	.	.	.	1
Killdeer	.	.	100	100	100	100	100	100	100	100	100	100	68
Spotted Sandpiper	.	.	.	.	.	.	.	.	.	10	.	.	1
Greater Yellowlegs	.	.	.	.	.	.	.	.	.	.	20	.	2
Lesser Yellowlegs	.	.	.	.	.	.	10	.	.	.	.	.	1
Western Sandpiper	.	.	.	.	.	.	.	.	.	10	.	.	1
Dunlin	.	.	.	.	.	.	10	.	10	.	30	.	5
Wilson's Snipe	.	20	.	11	50	100	90	100	100	80	100	50	54
American Woodcock	.	20	.	11	50	.	.	20	30	.	30	50	12
Bonaparte's Gull	.	.	.	.	.	.	.	50	80	100	100	100	35
Ring-billed Gull	.	.	.	.	.	100	100	100	100	100	100	100	55
Herring Gull	.	.	.	.	.	67	100	100	80	60	40	50	41
Rock Pigeon	.	.	.	.	.	33	.	70	100	100	100	100	40
Mourning Dove	.	20	100	100	100	100	100	100	100	100	100	100	69
Common Barn-Owl	.	.	.	.	.	.	10	.	.	.	.	.	1
Eastern Screech-Owl	.	.	50	67	50	33	60	100	100	80	100	50	54
Great Horned Owl	.	.	.	11	50	33	40	70	100	60	70	100	39
Barred Owl	.	20	.	22	.	33	10	10	.	40	90	.	19
Long-eared Owl	.	.	.	11	.	.	.	.	.	.	.	.	1
Ruby-throated Hummingbird	.	.	.	.	.	.	.	.	.	.	20	.	2
Rufous Hummingbird	.	.	.	.	.	.	.	.	.	10	60	.	7
Allen's Hummingbird	.	.	.	.	.	.	.	.	.	10	.	.	1
Belted Kingfisher	.	.	50	89	100	100	100	100	100	100	100	100	66
Red-headed Woodpecker	.	20	100	56	.	.	80	30	20	40	60	50	32

Species	3-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	111-112	Counts Reported
Red-bellied Woodpecker	.	.	100	89	100	100	100	100	100	100	100	100	67
Yellow-bellied Sapsucker	.	20	100	67	100	100	100	100	100	100	100	100	66
Downy Woodpecker	17	100	100	100	100	100	100	100	100	100	100	100	74
Hairy Woodpecker	17	20	50	56	50	33	90	100	100	100	100	100	61
Northern Flicker	33	40	100	100	100	100	100	100	100	100	100	100	72
Pileated Woodpecker	.	.	50	78	.	100	100	100	100	100	100	100	63
American Kestrel	17	20	100	78	100	100	100	100	100	100	100	100	68
Merlin	.	.	.	.	.	.	.	.	10	10	20	50	5
Peregrine Falcon	.	.	.	.	.	.	.	10	.	.	.	.	1
Eastern Phoebe	33	.	50	78	.	67	70	60	100	100	100	100	57
Loggerhead Shrike	.	20	.	56	50	100	100	100	100	80	50	50	54
Blue Jay	17	40	100	100	100	100	100	100	100	100	100	100	71
American Crow	83	100	100	100	50	100	100	100	100	100	100	100	77
Fish Crow	.	.	.	.	.	.	.	.	.	.	30	50	4
Horned Lark	.	.	.	11	50	100	90	60	60	20	20	.	30
Tree Swallow	.	20	.	.	.	.	.	.	.	.	.	.	1
Carolina Chickadee	50	100	100	100	100	100	100	100	100	100	100	100	76
Tufted Titmouse	83	100	100	100	100	100	100	100	100	100	100	100	78
Red-breasted Nuthatch	.	.	.	44	100	33	60	70	70	60	50	50	39
White-breasted Nuthatch	.	60	100	100	50	67	90	90	100	100	100	100	67
Brown-headed Nuthatch	.	20	.	.	.	.	.	.	.	.	80	100	11
Brown Creeper	.	40	50	67	100	100	100	100	100	100	100	100	66
House Wren	.	20	50	.	.	.	.	.	20	10	50	50	11
Winter Wren	.	.	100	78	50	67	80	100	100	100	100	100	62
Sedge Wren	.	.	.	.	.	.	.	.	10	.	.	50	2
Marsh Wren	.	20	.	.	.	.	.	10	.	.	.	.	2
Carolina Wren	17	100	100	100	100	100	100	100	100	100	100	100	74

Species	3-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	111-112	Counts Reported
Bewick's Wren	.	40	100	22	100	33	60	.	.	.	.	.	15
Blue-gray Gnatcatcher	.	.	.	.	.	.	.	.	.	20	10	.	3
Golden-crowned Kinglet	.	20	100	78	100	100	100	100	100	100	100	100	67
Ruby-crowned Kinglet	.	20	100	56	100	67	100	100	100	100	100	100	64
Eastern Bluebird	83	80	100	100	100	100	90	100	100	100	100	100	76
Hermit Thrush	.	.	100	89	.	67	60	70	100	100	100	100	57
American Robin	17	20	100	89	100	100	100	100	100	100	100	100	69
Gray Catbird	.	.	50	.	.	.	10	.	10	10	.	50	5
Northern Mockingbird	17	20	100	100	100	100	100	100	100	100	100	100	70
Brown Thrasher	.	.	.	11	.	100	90	100	100	90	100	100	54
European Starling	.	.	100	100	100	100	100	100	100	100	100	100	68
American Pipit	.	.	.	11	.	.	30	.	80	50	90	50	27
Cedar Waxwing	.	20	50	56	.	100	90	100	100	90	100	100	60
Lapland Longspur	.	.	.	.	.	.	.	.	.	.	10	.	1
Northern Waterthrush	.	.	.	.	.	.	.	.	.	.	10	.	1
Black-and-white Warbler	.	.	.	.	.	.	.	.	.	10	.	.	1
Orange-crowned Warbler	.	.	.	.	.	.	.	.	.	10	50	.	6
Cape May Warbler	.	.	.	.	.	.	.	.	.	10	.	.	1
Palm Warbler	.	.	.	.	100	33	10	30	20	60	90	100	26
Pine Warbler	.	.	.	22	50	33	30	50	50	60	100	100	35
Yellow-rumped Warbler	.	.	100	100	100	100	100	100	100	100	100	100	68
Yellow-throated Warbler	.	.	.	.	.	.	.	.	.	.	10	.	1
Prairie Warbler	.	.	.	.	.	.	.	10	.	.	.	.	1
Eastern Towhee	17	60	100	100	100	100	100	100	100	100	100	100	72
Tree Sparrow	.	.	50	.	.	.	.	.	.	.	.	.	1
Chipping Sparrow	.	.	50	22	50	.	20	20	20	100	100	100	32
Field Sparrow	.	20	100	100	100	100	100	100	100	100	100	100	69

Species	3-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	111-112	Counts Reported
Vesper Sparrow	.	.	.	22	.	33	.	.	20	20	20	.	9
Lark Sparrow	.	.	.	.	.	.	10	.	.	.	.	.	1
Savannah Sparrow	.	.	100	67	50	100	100	100	100	100	100	100	64
Le Conte's Sparrow	.	.	.	.	.	.	.	10	.	.	.	.	1
Fox Sparrow	17	20	50	33	.	100	90	60	60	80	80	100	48
Song Sparrow	33	40	100	100	100	100	100	100	100	100	100	100	72
Lincoln's Sparrow	.	.	.	.	50	.	.	.	.	.	.	.	1
Swamp Sparrow	.	20	.	44	.	100	100	100	100	100	100	100	60
White-throated Sparrow	.	20	100	100	100	100	100	100	100	100	100	100	69
White-crowned Sparrow	.	20	100	44	100	100	100	90	100	100	100	100	63
Dark-eyed Junco	50	100	100	100	100	100	100	100	100	100	100	100	76
Summer Tanager	.	.	.	.	.	.	10	.	.	.	.	50	2
Northern Cardinal	50	60	100	100	100	100	100	100	100	100	100	100	74
Rose-breasted Grosbeak	.	.	.	.	.	.	.	10	.	.	.	.	1
Blue Grosbeak	.	.	.	.	.	.	.	10	.	.	.	.	1
Red-winged Blackbird	.	20	.	11	50	33	90	100	100	100	90	100	54
Eastern Meadowlark	17	.	50	78	100	100	100	100	100	100	100	100	66
Rusty Blackbird	.	.	.	11	.	33	90	90	60	40	40	100	36
Common Grackle	.	20	.	22	.	67	100	100	100	90	60	100	52
Brown-headed Cowbird	.	20	.	11	.	67	90	100	100	50	70	100	47
Baltimore Oriole	.	.	.	.	.	.	10	.	10	.	.	.	2
Purple Finch	.	.	100	56	50	100	100	100	100	100	90	100	62
House Finch	.	.	.	.	.	.	.	20	100	100	100	100	34
Common Redpoll	.	.	.	.	.	.	10	.	.	.	.	.	1
Pine Siskin	.	.	.	.	.	33	40	40	70	30	20	50	22
American Goldfinch	17	20	100	100	100	100	100	100	100	100	100	100	70
Evening Grosbeak	.	.	.	.	.	.	10	20	10	10	.	.	5
House Sparrow	.	.	.	89	100	100	100	100	100	100	100	100	65

Species	3-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	111-112	Counts Reported
COUNTS CONDUCTED	6	5	2	9	2	3	10	10	10	10	10	2	79

Values are the percentage of counts in the period in which the species was reported (100 x Counts Reported/Counts Conducted).

Counts reported indicates the number of counts on which the species has been reported with the maximum possible being 79.

The number of counts within a decade varies from 1-10. Counts Conducted is number of years counts were conducted during the decade.

A "." indicates the species was not reported on any count in that period.

Species in bold have only been detected on one or two Knoxville Christmas Counts. The year(s) for each of these species are: Mute Swan (2000, 2004), Greater Scaup (1965, 2003), White-winged Scoter (1977, 1985), Long-tailed Duck (1929), Ruffed Grouse (1998), Red-throated Loon (2009), Little Blue Heron (1971), Cattle Egret (2004), Northern Goshawk (1985), Broad-winged Hawk (1937), Rough-legged Hawk (2000), Virginia Rail (1979), Semipalmated Plover (1969), Spotted Sandpiper (1990), Greater Yellowlegs (2003, 2009), Lesser Yellowlegs (1969), Western Sandpiper (1993), Common Barn-Owl (1963), Long-eared Owl (1934), Rudy-throated Hummingbird (2004, 2009), Allen's Hummingbird (1996), Peregrine Falcon (1972), Tree Swallow (1914), Sedge Wren (1981, 2011), Marsh Wren (1914, 1975), Lapland Longspur (2003), Northern Waterthrush (2005), Black and White Warbler (1998), Cape May Warbler (2000), Yellow-throated Warbler (2000), Prairie Warbler (1977), American Tree Sparrow (1929), Lark Sparrow (1963), LeConte's Sparrow (1970), Lincoln's Sparrow (1942), Summer Tanager (1969, 2011), Rose-breasted Grosbeak (1971), Blue Grosbeak (1970), Baltimore Oriole (1966, 1988), and Common Redpoll (1968).

ROUND TABLE NOTES

RECORD NUMBER OF LE CONTE'S SPARROWS - On 16 December 2012, during the Memphis Christmas Bird Count, a group of eleven observers fanned out across the field north of Chickasaw Lake in the Shelby Farms Recreational Area and Plough Park. The hope was to flush and observe any remaining Le Conte's Sparrows (*Ammodramus leconteii*) that had been seen with some frequency over the past several weeks.

A total of 25 Le Conte's Sparrows was observed by this group, with 23 being in the field north of the Chickasaw Lake near the northern boundary, one observed south of the lake below the dam, and one observed in the Community Garden Area of the park. The previous record number of individuals reported in Tennessee was 18 reported on the Reelfoot Christmas Bird Count on 18 December 2010.

The open field in which these sparrows were feeding had been mown for hay in the spring of 2012 and contained many marshy areas with thick, matted fescue (*Festuca spp.*) interspersed with broomsedge (*Andropogan virginicus*), redtop (*Agrostis alba*), foxtail (*Alopecurus spp.*) and clumps of Johnsongrass (*Sorghum halepense*). The Le Conte's were feeding on the Johnsongrass seeds and seemed to prefer these clumps for cover. The matted fescue was so dense it appeared the Le Conte's had little ability to run on the ground beneath the thick grass and therefore were forced to fly. This made them readily observable which, in itself, is unusual for this secretive ground forager. At one time five individuals occupied one small honeylocust (*Gleditsia triacanthos*) sapling.

Le Conte's Sparrows were observed and reported at this location from 17 November 2012 until 16 February 2013. The first record of this species at this location (formerly known as the Shelby County Penal Farm) is 16 December 1951 by Ben B. Coffey and Charles McPherson of the Memphis TOS chapter.

N. P. McWhirter, Memphis, TN

Photo by Georges McNeil

ASH-THROATED FLYCATCHER IN SHELBY COUNTY - On 29 December 2012 Mac and I birded Meeman-Shelby Forest State Park in Shelby County, north of Memphis, as part of the Wapanocca National Wildlife Refuge Christmas Count. The count is centered at the refuge in Arkansas but includes part of Tennessee across the Mississippi River. While birding on Riverbluff Rd., which closely parallels the river, we saw a bird standing in the middle of the road that from a distance first appeared to be an Eastern Phoebe (*Sayornis phoebe*). However, the "jiz" was wrong: it seemed a bit too big, the throat, chest and belly were too pale and the bill was too long. A closer look showed a gray-brown bird with rust-colored primaries and a rusty tail; the wing feathers were outlined in whitish and there were two whitish wing bars. The eye was dark. The belly, chest and throat were whitish with a faint dinginess, and there was a hint of a yellowish wash on the lower sides and lower belly.

We agreed the coloring of the bird was wrong for a Great-crested Flycatcher (*Myiarchus crinitis*). I felt there was a strong possibility this was an Ash-throated Flycatcher (*Myiarchus cinerascens*) because of a conversation with ebird reviewer Stephen J. Stedman about a late-date *Myiarchus* we had had several years ago on our farm in Warren County. This had made me aware that this species of the southwestern United States occasionally wandered east in the fall and winter.

The bird fed only on the ground, picking fallen hackberries from the road. It was flushed from the road several times by cars and a bicyclist; it would fly to the brush or low tree branches on the side of the road, and after a moment return to the road to feed again. At one point the bird vocalized a hoarse two-note call followed by a single hoarse note.

We observed the bird for about thirty minutes with a spotting scope and binoculars; at one time we were as close as 12 meters. We took notes as we observed and did not consult a field guide until we had made all our notes; at that time we were confident in our identification of an Ash-throated Flycatcher.

The bird remained in the same area for two weeks and was seen by many observers; we last saw it on 12 January 2013. This was the fourth sighting of Ash-throated Flycatcher in Tennessee.

Susan McWhirter, Memphis, Tennessee

Photo by Georges McNeil

2012 TENNESSEE CHRISTMAS BIRD COUNT

Ron Hoff
282 Hackworth Lane
Clinton, Tennessee 37716

The 2012 Tennessee Christmas Bird Count (CBC) season was the 82nd compilation in Tennessee. Thirty two counts reported data. Duck River and Macon County were new counts for this CBC compilation while Kingsport and Shady Valley did not conduct counts. This year's efforts resulted in 159 species (second highest ever), plus 4 more found during count week (cw = three days before and three days after the actual count date, but not on count day). Rain was noted on 19 of the counts, and several of the counts had windy conditions. Temperatures ranged from 18° F at Crossville to 65° F on the Buffalo River count

White Ibis and Pacific Loon (previously only a count week bird) were both new species for the Tennessee CBC compilation. This brought the all-time total of species on the CBC to 269 (plus 6 more count week only species).

COUNT SUMMARIES

F/Y = feeder/yard watcher

BRISTOL (36.583° N, 82.1° W) – 30 December; 0700-1800. Weather: cloudy to clear; wind W 0-6 mph; 27-38° F. Observers: Rob Biller, Ron Carrico, Mary Clark, Ruth Clark, Carolyn Coffey, Wallace Coffey, Mitch Critel, Rack Cross, Kevin Hamed, Ron Harrington, Jean Henson, Neal Henson, Tom Hunter, Jeff Hutchinson, Andy Jones, Richard Knight, Roy Knispel, Michelle Leighty, Phillip Lewis, Richard Lewis (compiler: 407 V.I. Ranch Rd., Bristol, TN 37620; mountainbirds@gmail.com), Larry McDaniel, Tom McNeil, Cathy Meyers, John Moyle, Chris O'Bryan and Randy Smith.

BUFFALO RIVER (35.3° N, 87.467° W) – 17 December; 0530-1750. Weather: partly cloudy with occasional rain and hail in the afternoon; wind NW 0-10 mph, gusts to 35 mph; 47-65° F. Highlights include 40 Loggerhead Shrikes; this is one of the few areas in Tennessee where this species continues in decent numbers. Observers: Todd Foster, Jud Johnston, Frances Markine, Gary Markine, Warren Massey, Royce Neidert, Bill Pulliam, Andrew Salhaney, Donette Sellars, Damien Simbeck (secondary compiler), Don Simbeck (compiler: 424 Riddle Ln., Loretto, TN 38469; dnks@lorettotel.net) and Jane Worn.

CADE'S COVE (35.6° N, 83.833° W) – 29 December; 0700-1745. Weather: cold rain; light sleet in the afternoon; 34-42° F. Redhead and Short-eared Owl were recorded for the first time. Observers: Jean Alexander, Warren Bielenberg, Meredith Clebsch, Ed Dorr, Margaret Dorr, Bob Howdeshell, Tom Howe, Susan Hoyle (compiler: P. O. Box 11752, Knoxville, TN 37939; hoyleshrike@gmail.com), David Johnson, Kristine Johnson, Tony King, Bill Landry and June Welch.

CANE CREEK (35.708° N, 87.775° W) - 15 December; no times given. Weather: cloudy with light rain; 46-56° F. Observers: Adam Beachy, Chad Beachy, Evan Beachy, Rose

Beachy, Seth Beachy, Susanna Beachy, Alfred Mast, Leo Schrock III, Ruben Stoll (compiler: chrisbeachy@tds.net), Victor Stoll, Alan Troyer and Henry Troyer.

CHATTANOOGA (35.1° N, 85.233° W) – 15 December; 0600-1900. Weather: rain; clearing in afternoon; wind S 0-5 mph; 43-63° F. Observers: David Aborn, Tim Baker, Nelson Bennett, Jeff Boehm, Kincaid Boehm, Gary Brunvoll, Kevin Calhoon (compiler: 934 Craven's Terrace, Lookout Mtn., TN 37409; kac@tennis.org), Janice Chadwell, John Dever, John Diener, Kurt Emmanuele, Ian Farrelly, Libby Farrelly, Kay Florello, Lisa Flores, Danny Gaddy, Lizzie Goodrick, Bill Haley, Dennis Harris, Loren Hayes, John Henderson, Daniel Jacobson, Kathy Jacobson, Kim Jones, Starr Klein, Gary Lanham, Pixie Lanham, Jonnie Sue Lyons, Phillip Mansveto, Suzie Matthews, Barbara McMahan, Mike McMahan, David Patterson, Pete Robinson, Tommie Rogers, Kyle Simpson, Holly Slater, David Spicer, Carl Swafford, Cynthia Wilkerson, Jimmy Wilkerson, Dan Williams, Georgia Wilson, Marissa Wilson, Susan Wilson and Libby Wolfe.

CLARKSVILLE (36.5° N, 87.383° W) – 29 December; 0700-1630. Weather: overcast with light drizzle and snow; wind WNW 7-17 mph, gusts to 27 mph; 24-37° F. Wild Turkey (575) is a new high total for a single count in Tennessee. Only one Eastern Meadowlark was found on this count. Observers: Suva Bastin, Alan Bottomlee, Elaine Foust, Deborah Hamilton (compiler: 290 Ardmoor Dr., Clarksville, TN 37043; ammonite@charter.net), Steven Hamilton, Nita Heilman (F/Y), Gloria Milliken, Daniel Moss, Sallie Noel (F/Y), Polly Rooker, Cyndi Routledge, Steve Routledge, Joe Schiller, Sallie Schiller (F/Y), Paul Schwab, Rick Shipkowski, Chris Sloan, Scott Somershoe, Sandra Watson (F/Y) and Barbara Wilbur (F/Y).

CLAY COUNTY (36.5° N, 85.367° W) – 3 January; 0530-1615. Weather: partly cloudy in the morning becoming clear in the afternoon; 26-37° F. Observers: Terry M. Campbell (compiler: 1886 New Hope Rd., Celina, TN 38551; Terry_Campbell@fws.gov), Daniel Combs, Granville Cox, Roseanna Denton, Arlene Morton, Michael J. O'Rourke, Michelle O'Rourke and Steven Stedman.

COLUMBIA (Mayfield-Gray chapter) (35.6° N, 87.167° W) – 29 December; 0645-1645. Weather: overcast, rain very late in the afternoon; wind NNE 7-12 mph; 36-42° F. Observers: Mike Hunter, William Jernigan, Mark Mayfield, Bill Pulliam, Donette Sellars and Jane Worn. Tommy Edwards (compiler: 896 Iron Bridge Rd., Columbia, TN 38401; Tommy.Edwards@state.tn.us),

COOKEVILLE (36.15° N, 85.467° W) – 15 December; 0500-1700. Weather: cloudy with intermittent drizzle; wind WSW 0-10; 44-63° F. Observers: John Barthelme, Sharon Brines, Wally Brines, Daniel L. Combs, Douglas A. Downs, Ginger K. Ensor, Janie C. Finch, Judy C. Fuson, Michael J. Hawkins, Linda Henderson, Peggy Huffstetler, Nancy S. Layzer, Edmund K. LeGrand, Michael P. O'Rourke, Sue E. Pirolo, Thomas M. Saya, Stephen J. Stedman (compiler: 2675 Lakeland Dr., Cookeville, TN 38506; sstedman@tntech.edu) and Carol D. Williams.

CROSS CREEKS N. W. R. (36.467° N, 87.783° W) – 17 December; 0630-1730. Weather: cloudy, light rain in the morning; 51-60° F. Observers: Joe Casey, Shirley Casey, Marion Graves, Richard Graves, Blake Hunt, Joyce North and Sarah Welker (compiler: P.O. Box 485, Dover, TN 37058; swelk@yahoo.com).

CROSSVILLE (38.862° N, 85.018° W) – 22 December; 0445-1930. Weather: very cold early, clear; wind WNW 0-5 mph; 18-42° F. Observers: Denise M. Aquista, Nan E. Beesley, Margery Buxbaum, Daniel L. Combs, Douglas A. Downs, Annell S. Fields, Edmund K. LeGrand (compiler: 1631 Leffle Webb Rd., Crossville, TN 38572; elegrand@frontiernet.net), Harry E. LeGrand, Jane Miller, Lynn Miller, Stephen J. Stedman and Carol D. Williams.

DeKALB COUNTY (36.02° N, 85.83° W) – 21 December; 0700-1645. Weather: partly cloudy, clearing in the afternoon; 22-41° F. Observers: John Barthelme, Richard Conners, Tommy Curtis (F/Y), Virginia Curtis (F/Y), Douglas A. Downs, Eddie Fuson, Judy C. Fuson (co-compiler), Michael J. Hawkins, Nancy S. Layzer, Edmund K. LeGrand, Gail Miller, Stephen J. Stedman, Holly Taylor, Mark Taylor, Winston A. Walden and Carol D. Williams (compiler: 3909 Cookeville Highway, Smithville, TN 37166; cdenson@dtccom.net).

DUCK RIVER (35.533°N, 86.9°W) - 29 December; no times given. Weather: cloudy; light rain in the afternoon; 33-35° F. This is the first CBC for this location. Observers: Adam Beachy, Chad Beachy, Evan Beachy, Rose Beachy, Seth Beachy, Hope Gammon, Alfred Mast, Leo Schrock III, Ruben Stoll (compiler: chrisbeachy@tds.net), Victor Stoll, Alan Troyer and Henry Troyer.

ELIZABETHTON (36.333° N, 82.123° W) – 15 December; 0500-1700. Weather: cloudy; wind ENE 0-6 mph; 35-59° F. Green Heron and White Ibis are first state CBC records. Observers: Fred Alsop, Jim Anderson, Rob Biller, Mark Borgatti, Kevin Brooks, Ron Carrico, Gilbert Derouen, Glen Eller, Harry H. Farthing, Don Holt, Rick Knight (compiler: 804 N. Hills Dr., Johnson City, TN 37604: rknight8@earthlink.net), Vern Maddux, Joe McGuiness, Tom McNeil, Charles Moore, Kathy Noblet, Colton Patterson, Brookie Potter, Jean Potter, Katie Quillin, Kim Stroud, Gary Wallace and Elise Wolf.

FAYETTE (35.2° N, 89.42° W) – 1 January; 0530-1615. Weather: cloudy; light rain and hail in the afternoon; 54-64° F. Observers: Michael Collins, Judy Dorsey, Lillian Durand, Kate Gooch (compiler: 2900 Garden Ln., Memphis, TN 38111; goochpb@att.net), Van Harris, Jim Johnson, Kay Lait, Susan McWhirter, Gaynell Perry, Allen Trently, Martha Waldron and Dick Whittington. Co-compiler was Fields Falcone.

FRANKLIN/COFFEE COUNTIES (35.302° N, 86.057° W) – 17 December; 0330-1630. Weather: cloudy; overcast with occasional drizzles; 45-55° F. Observers: Dwain Adams, Joyce Adams, Larry Bowers, Richard Candlar, Jonathon Carpenter, Jim Harwell, Rachel Harwell, Janet Hill, Suzanne Huber, John Lamb, Ruth Luckado, Linda Myers, LouAnn Partington (compiler: 92 Maple Ave., Tullahoma, TN 37388; louannpartington@yahoo.com), Polly Rooker, Laura Shore, Dale Swant and Lisa Trail.

GREAT SMOKEY MOUNTAINS N. P. (35.717° N, 83.483° W) – 23 December; 0600-1600. Weather: partly cloudy; cloudy and rain in the afternoon; 22-55° F. Observers: Warren Bielenberg (compiler: 2127 Spalding Dr., Maryville, TN 37803; birdglass44@aol.com), Jennifer Burke, Kevin Burke, Shawn Hatmaker, Bob Howdeshell, Susan Hoyle, Kristine Johnson, Tony King, Chrissy Mann, Dana Murphy (F/Y), Joni Renner, Keith Watson and Caitlin Worth (F/Y).

GREENEVILLE (36.167° N, 82.85° W) – 22 December; 0700-1900. Weather: Partly cloudy; wind NW 8 mph; 24-39° F. Observers: Fawn Holt, Jim Holt (compiler: 311 Colonial

Circle, Greeneville, TN 37745; jimbouh@comcast.net), Richard Knight, Don Miller, Jean Obrist and Virginia Williams.

HICKORY-PRIEST (36.2° N, 86.667° W) – 1 January; 0530-1700. Weather: dense fog early, overcast with light rain and drizzle; wind 0-15 mph; 39-45° F. A swallow species was thought to be a Northern Rough-winged, but identification was inconclusive. Observers: Joe Apap, Richard Conners (compiler: 603 Barrywood Dr., Nashville, TN 37220; rconnorsphoto@aol.com), Jerry Drewry, Richard Fox, Tarcila Fox, Mark Hackney, Joseph Hall, Denni Martin, Vernon Martin, Cyndi Routledge, Steve Routledge, Sarah Scott, Chris Sloan, Scott Somershoe, Joe Stone, Sabin Thompson, Chloe Walker, Nolan Walker, Thomas Walker and Betsy Westfields.

HIWASSEE (35.367° N, 84.9° W) – 1 January; 0600-1800. Weather: rain in the morning; wind NW 0-5 mph; 40-47° F. Observers: David Aborn, Beth Austin, Nelson Bennett, Harold Birch, Clyde Blum, Kevin Calhoon (compiler: 1185 Mountain Creek Rd., Apt. 715, Chattanooga, TN 37045; kac@tennis.org), Sam Clark, John Dever, John Diener, Lisa Flores, Danny Gaddy, Lizzie Goodrick, Bill Haley, Mike Hills, Rick Houlk, Tim Jeffers, Starr Klein, Gary Lanham, Pixie Lanham, Charles Murray, Seth Rachels, Tommie Rogers, Carl Swafford, Cynthia Wilkerson, Jimmy Wilkerson and Libby Wolfe.

JACKSON (35.617° N, 88.817° W) – 5 January; 0630-1700. Weather: clear; overcast in the afternoon; wind SSW 0-9 mph; 25-43° F. Observers: Bob Ford, Mark Greene (compiler: 194 Mount Orange Road, Trenton, TN 38382; greenesnake@yahoo.com) and Rick Light.

KNOXVILLE (35.917° N, 84.083° W) – 5 January; 0415-1630; 1830-2315. Weather: partly cloudy to mostly cloudy in the afternoon, light rain after 1830; wind WSW 0-15 mph; 22-47° F. Red Crossbills were found for the first time. A new high count for Red-bellied Woodpeckers (189). Observers: Jean Alexander, Stephen Lyn Bales, Warren Bielenberg, Frank Bills, Sharon Bostick, Billie Cantwell, Joe Chatfield, Rhonda Chatfield, Gail Clendenen, Steve Clendenen, Michael Crouse, Marcia Davis, K. Dean Edwards (compiler: 1615 Meadow Chase Lane, Knoxville, TN 37931; sparverius@comcast.net), Jim Evans, Joy Fels, Carole Gobert, Paul Hartigan, Ron Hoff, Angela Hoffman, Tom Howe, David Howell, Susan Hoyle, James Human, Bethany Jett, Trent Jett, David Johnson, Tony King, Ed LeGrand, Colin Leonard, Seth McConchie, Janet Lee McKnight, Dollyann Myers, Charles P. Nicholson, Keaton Noon, Joseph Pyle, Kellie Pyle, Talissa Ralph, Jo Roy, Kelly Roy, Martha Rudolph, Michael Ryon, Kurt Sickafus, Jason Sturner, Kelly Sturner, Ryan Trenkamp, Samantha Trenkamp, Keith Watson, Elliot Webster, June Welch, Chris Welsh and Corwin Witt.

MACON COUNTY (36.53° N, 86.09° W) - 15 December; 0650-1537. Weather: rain in the morning; clearing in the afternoon; wind S 0-10mph; 47-53° F. This is the first CBC for Macon County. Observers: Chad Beachy, Jamin Beachy, Matthan Beachy (compiler: 4355 Highland CH Rd., Holland, KY 42153), Timothy Brubaker, Ruben Stoll and Allan Troyer.

MEMPHIS (35.15° N, 89.933° W) – 16 December; 0645-1700. Weather: cloudy, light drizzle in the morning; wind 0-16 mph; 58-64° F. Observers: Betty Blaylock, David Blaylock, Chad Brown, Michael Collins, Sue Cosmini, Susan Davis, Judy Dorsey, Gregg Elliott, Jim Ferguson, Sue Ferguson, Van Harris, Robert Ilardi, Margaret Jefferson (compiler: 349

Hawthorne Ave., Memphis, TN 38112; mjefferson100@hotmail.com), Lisa Jorgensen, Pam Key, Keith Kunkel, Georges McNeil, Larry McPherson, Mac McWhirter, Susan McWhirter, Gerald Papachristou, George Payne, Gaynell Perry, Ernest Restivo, Virginia Reynolds, Jo Robinson, Stephan Schoech, Edwin Thomas, Allan Trently, Jamie Vespo, Steven Wagner, Jim Waldron, Martha Waldron and Jay Walko.

NASHVILLE (36.05° N, 86.933° W) – 15 December; 0415-1630. Weather: mostly cloudy with rain in the morning; wind 15-25 mph; 45-62° F. Not countable but notable were two Whooping Cranes on private property near the Bells Bend area, where they were observed a few years ago (birds were numbers 1-03 and 8-05 according to the International Crane Foundation). Observers: Scott Block (co-compiler: 1350 Otter Creek Rd., Nashville, TN 37215; sblock01@comcast.net), Susan Bradfield, Trae Bradfield, David Buchanan, Jean Buchanan, Ed Byrne, Richard Conners, Michael Doochin, Francis Fekel, Tarcila Fox, John Froeschauer, Heather Gallagher, Ed Gleaves, Richard Hitt, Susan Hollyday, George Koehler (F/Y), Margie Koehler (F/Y), Tony Lance, Laura Lockard, Amy Mackenzie, Diana McLusky, Camille Monohan, Jim Nance, David Olmstead, Amy Potter, Polly Rooker, Cyndi Routledge, Steve Routledge, Kathy Shaw, Sheila Shay, Danny Shelton, Chris Sloan, Mary Stone, Dee Thompson, Chloe Walker, Melinda Welton, Boyd Williams and Mary Zimmerman. Non-participating compiler: Jan Shaw (5019 Timberhill Dr., Nashville, TN 37211; JanKShaw@aol.com).

NICKAJACK LAKE (35.067° N, 85.517° W) – 22 December; 0545-1645. Weather: cloudy; clear in the afternoon; 22-52° F. Observers: Nelson Bennett, Clyde Blum, Janice Chadwell, Danny Gaddy, John Henderson, Daniel Jacobson, Star Klein, Seth Rachels, Ron Rogers, Tommie Rogers, Susan Schott, David Spicer (compiler: 9446 Cheri Beth Circle, Ooltewah, TN 37363; birdsnbflys@gmail.com), Scott Spicer, Cynthia Wilkerson, Jimmy Wilkerson and Libby Wolfe.

NORRIS (36.217° N, 84.083° W) – 15 December; 0630-1600. Weather: cloudy to partly cloudy; 37-50° F. Observers: Ellen Bean, Billie Cantwell, Chuck Estes, Lola Estes, Mindy Fauver, Carole Gobert, Susan Hoyle, Tony King, Colin Leonard, Charles Nicholson (compiler: P. O. Box 402, Norris, TN 37828; cpnicholson53@gmail.com), Frances Oates, Martha Rudolph and Stan Wallace.

REELFOOT LAKE (36.417° N, 89.383° W) – 15 December; 0630-1730. Weather: cloudy with light rain; wind SW 10-20 mph; 47-54° F. American White Pelican was a new high total. Observers: Bob Foehring, Mark Greene (compiler: 194 Mt. Orange Rd., Trenton, TN 38382; greenesnake@yahoo.com), Gail King, Nancy Moore, Mike Todd, Allan Trently, Donna Ward and Jeff Wilson.

ROAN MOUNTAIN (36.106° N, 82.111° W) – 15 December; 0700-1500. Weather: light to moderate rain all with some fog at higher elevations; wind SW 0-10 mph; 42-51° F. The compiler commented that the poor soft mast probably affected the robin and waxwing numbers. Observers: Fred Alsop, Jim Anderson, Kevin Brooks, Harry Lee Farthing, David Hall, David Kirschke, Rick Knight (compiler: 804 N. Hills Dr., Johnson City, TN 37604; rknight8@earthlink.net), Phillip Lewis, Richard Lewis, Larry McDaniel, Colton Patterson, Doris Ratchford and James Ratchford.

SAVANNAH (35.133° N, 88.15° W) – 3 January; 0415-1730. Weather: sunny and cold; wind NW 0-10 mph; 20-40° F. Greater White-fronted Goose, Pacific Loon and Glaucous Gull were all new species. The 1499 Killdeer found represented a new all-time high total for this species on any bird count in Tennessee. Observers: Adam Beachy, Evan Beachy, John Bundy, Laura Bundy, Dwight Cooley, Barbara Corpi, Jacob Garner, Jeff Garner, Ken Hansgen, Jim Johnson, Marcus Johnson, Frances Markine, Gary Markine, R. J. Moore, Jack Paul, Bill Pulliam, John Ross, Floyd Sherrod, Damien Simbeck (compiler: 4905 County Rd. 33, Killen, AL 35645; tnbarredowl@aol.com), Ruben Stoll and Alan Troyer.

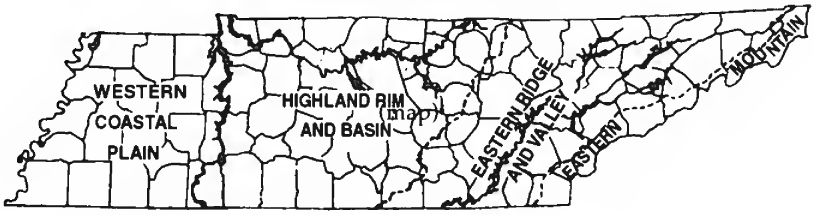
WARREN COUNTY (35.667° N, 85.767° W) – 4 January; 0530-1615. Weather: clear; wind 0-5 mph; 19-44° F. Observers: Judy C. Fuson, Gregg Garrison (compiler: 225 Cadillac Lane, McMinnville, TN 37110; ggarrison@mscc.edu), Stephen J. Stedman and Carole Williams.

WHITE COUNTY (35.908° N, 85.598° W) – 18 December; 0500-1705. Weather: partly cloudy to clear; wind 0-5 mph; 42-55° F. Observers: Douglas A. Downs (compiler: 403 Gillen Dr., Sparta, TN 38583; douglas_downs@hotmail.com), Judy C. Fuson, Michael J. Hawkins, Nancy S. Layzer, Edmund K. LeGrand, Michael P. O'Rourke, Thomas M. Saya, Stephen J. Stedman, Winston A. Walden and Carol D. Williams.

Corrigenda: The totals for American Woodcock and Barn Owl in the Dec. 18, 2004 CBC report for Cookeville were incorrect at 2 each. The corrected totals are American Woodcock, 1; and Barn Owl, 3.

THE WINTER SEASON

Richard L. Knight, Editor



1 December 2012 - 28 February 2013

The weather was largely unremarkable this winter. Temperatures ranged from mild to slightly cooler than average. Precipitation was near normal in most areas, although heavy rains were notable for January in East Tennessee. Little snow fell outside the eastern mountains.

Waterfowl highlights include a Harlequin Duck in Kingsport and a Eurasian Wigeon in Decatur County. Tundra Swans were found in three regions, and impressive numbers of Redheads appeared in the eastern regions. A remarkable showing was made by the rarer species of loons and grebes statewide. Two White Ibises on the Elizabethton Christmas Bird Count were unprecedented for winter in Tennessee.

Studies begun last winter were continued this season in which TWRA and collaborators monitored staked-out deer carcasses with trail cameras at 12 sites in the eastern two regions to detect the presence of Golden Eagles. In February three Golden Eagles were captured and fitted with transmitters in order to determine their winter movements, migration routes, and breeding grounds. Two of these were caught just barely across state lines into Alabama and North Carolina, but likely involved eagles photographed at nearby sites in Tennessee.

Though not quite the major flight experienced to our north, some boreal irruptives did reach parts of Tennessee this winter. Birders in West and Middle Tennessee were delighted by good numbers of Red-breasted Nuthatches, Purple Finches and Pine Siskins. However, low numbers in areas east of Knoxville were due to poor cone and seed crops, the very reason these birds departed their boreal homes. Two Common Redpolls in northwest Tennessee and an Evening Grosbeak in Maryville were exceptional.

Other highlights this winter included: Ferruginous Hawk, Glaucous Gull, Ash-throated Flycatcher and Spotted Towhee in West Tennessee; Calliope Hummingbird and Harris's Sparrow in the mid-state; plus Wood Thrush and two western forms of Dark-eyed Junco in East Tennessee.

Standard Abbreviations

ad - adult
ba - banded
CBC - Christmas Bird Count
Co - County
Cr - Creek
ers - earliest reported sighting
et al. - and others
im - immature
L - Lake
max - maximum count
m.ob. - many observers
Mtn - Mountain
NWR - National Wildlife Refuge
R - River
SP - State Park
WMA - Wildlife Management Area

WESTERN COASTAL PLAIN REGION - - This winter proved to be a banner one for northern irruptives. Red-breasted Nuthatches, Purple Finches and Pine Siskins arrived early, in good numbers, and were widespread across the region. Scarcely a feeder failed to be visited by some or all of these eagerly sought species. Raptors also made a good showing, with appearances by Ferruginous and Rough-legged Hawks, along with Golden Eagle, an infrequent visitor to the region. The clear winner in the bird-of-the-season sweepstakes was the fourth state record of Ash-throated Flycatcher. Found in Shelby County, the bird was extremely cooperative, delighting scores of birders over its two week stay. Temperatures were slightly below normal, as was rainfall.

Goose - Pelican: **Greater White-fronted Goose**: 27 Jan (400) Britton Ford (DDP et al.), max. **Ross's Goose**: 17 Jan (4) Busseltown Unit (MCT); 22 Feb (12) Dyer Co (MAG); 24 Feb (1) Ensley (Gail King). **Tundra Swan**: 15-19 Feb (1) Britton Ford (Judy Stevens, Shawna Ellis). **EURASIAN WIGEON**: 12-17 Jan (1 male) Busseltown Unit (RS, m.ob.). **Common Merganser**: 27 Jan / 24 Feb (2 / 4) Pace Point (DDP et al. / TJW). **Red-throated Loon**: 11 Jan (1) Rocky Point, Henry Co (RS). **Pacific Loon**: 3 Jan (1) Pickwick L, on Savannah CBC; 11 / 27 Jan (1) Pace Point (RS, DDP). **Red-necked Grebe**: 8 Dec (1) Pace Point (MCT, m.ob.). **American White Pelican**: 11 Feb (40) Britton Ford (Shawna Ellis).

Hawk - Gull: **"Harlan's" Red-tailed Hawk**: 12 Feb (1 im dark morph) Ensley (CAS); 22 Feb (1 ad dark morph) Obion Co (MAG). **FERRUGINOUS HAWK**: 5 Jan (1 im) Bogota WMA (TJW), presumably same bird as in Nov. **Rough-legged Hawk**: 1-7 Dec (1) near Trezevant, Carroll Co (MCT); 17 Jan (1) Dyer Co (MAG); 24 Feb (1) Lake Co (FJA et al.). **Golden Eagle**: 29 Dec (1) Shelby Forest (SNM, NPM); 17 / 26 Jan (1 im) Busseltown Unit (MCT, m.ob.); 5 Feb (1 ad) Hatchie NWR, Haywood Co (SNM, NPM). **Sandhill Crane**: 16 Jan (800+) Obion Co (MAG); 22 Jan (40, flying over) Memphis (Van Harris); 27 Jan - 11 Feb (20-26) Britton Ford (DDP et al. / TJW); 14 Feb (250) Gibson Co (MAG). **Lesser Black-backed Gull**: 9 Feb (1) Pace Point (TJW); 12 Feb (1) Paris Landing, Henry Co (SGS). **GLAUCOUS GULL**: 3 Jan (1) Pickwick Dam, Savannah CBC.

Dove - Falcon: **White-winged Dove**: 14 Dec (2, at feeder) southeast Shelby Co (Betty Tipton, photo). **Barn Owl**: 16 Dec (1) Gibson Co (MAG); 31 Dec (brood of 3 young) near Millington, Shelby Co (Knox Martin). **Short-eared Owl**: 5 Jan (4) Bogota WMA (TJW). **Rufous Hummingbird**: 15 Dec - 28 Feb (1 ad female, ba) Memphis (Dagny Ulrich, CAS); 18 Dec - 18 Feb (1 female) east Shelby Co (Peter Kersting, photo). **Merlin**: 12 Jan (1) Shelby Farms (SNM, NPM); 17 Jan (1) Dyer Co (MAG). **Peregrine Falcon**: 27 Jan (1) Britton Ford (DDP et al.).

Flycatcher - Siskin: **ASH-THROATED FLYCATCHER**: 29 Dec - 12 Jan (1) Shelby Forest (SNM, NPM, m.ob., photos). **Tree Swallow**: 28 Feb (6) Hatchie NWR, Haywood Co (Bob Ford), ers. **Northern Rough-winged Swallow**: 3 Jan (1) Robco L, Shelby Co (Jeff Wilson). **Red-breasted Nuthatch**: numerous reports throughout region. **Marsh Wren**: 2 Dec (1) Shelby Farms (SNM, NPM). **Gray Catbird**: 29 Dec (1) Shelby Forest (Dollyann Myers). **Lapland Longspur**: 16 Dec (4) Gibson Co (MAG). **Spotted Towhee**: 15 Dec (1) Reelfoot CBC, Lake Co portion (MCT, Bob Foehring). **Vesper Sparrow**: 2 Dec (10) Shelby Farms (SNM, NPM). **Le Conte's Sparrow**: 16 Dec (25) Shelby Farms, Memphis CBC (SNM, NPM, m.ob.), notable high count. **Harris's Sparrow**: 24 Feb (1) Ensley (Gail King). **Western Meadowlark**: 22 Feb (8) Obion Co (MAG); 22 Feb (37) near Bogota WMA (FJA et al.), notable high count. **Rusty Blackbird**: 24 Jan (61) Memphis (SNM, NPM), max. **Brewer's Blackbird**: 4 Dec (7) Shelby Farms (SNM, NPM); 22 Feb (12) Obion Co (MAG). **Purple Finch**: 22 Feb (71, at feeders) Tipton Co (DDP), max. **COMMON REDPOLL**: 29 Dec (1) Antioch, Henry Co (Jeff Wilson); 17 Jan (1) Obion Co (MAG). **Pine Siskin**: 14 Jan (200, at feeders) Shelby Co (Judy Dorsey), max.

Locations: Bogota WMA, Dyer Co; Britton Ford, Henry Co; Busseltown Unit - unit of the Tennessee NWR, Decatur Co; Ensley, Shelby Co; Pace Point, Henry Co; Pickwick L, Hardin Co; Shelby Farms, Shelby Co; Shelby Forest, Shelby Co.

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HIGHLAND RIM AND BASIN REGION - - No regional compiler was available this season; the following report was taken from posts to TN-Bird listserve. Scott Somershoe will assume the duties of regional compiler beginning with the spring season.

Goose - Grebe: **Snow Goose**: 16 Dec (2) Robertson Co (TL); 11 Jan (1) Lewis Co (WMP); 23 Jan (12) Rutherford Co (Chloe Walker). **Ross's Goose**: 14 Dec - 28 Feb (1-2) scattered sites in Rutherford Co (TJW, FF, SGS, SZ); 9 Feb (1) Sumner Co (Ken Oeser). **Cackling Goose**: 27 Jan (1) Robertson Co (TL). **Trumpeter Swan**: 1 of the pair present in Rutherford Co since fall died in mid-winter, with the survivor remaining at least thru late Jan. **Tundra Swan**: 27 Jan (1) Robertson Co (TL, Jan Shaw). **Blue-winged Teal**: 28 Feb (2) Duck R Unit, Humphreys Co (Clayton Ferrell), ers. **Red-throated Loon**: from late Nov - 4 Dec (1) Percy

Priest L (SGS). **Pacific Loon**: 2 Dec (1) Percy Priest L (SGS, m.ob.). **Western Grebe**: 1-5 Dec (1) Percy Priest L (FF, m.ob.).

Bittern - Gull: **American Bittern**: from Nov - 7 Dec (1) marsh on Walter S. Davis Blvd, Nashville (FF). **Great Egret**: 11 Jan (12) Lewis Pond, Sumner Co (SZ). **Green Heron**: 8 Jan (1) Metro Center, Davidson Co (Dave Hawkins, photo). **Virginia Rail**: 3 Jan (4) Savannah CBC. **Sora**: 3 Jan (1) Savannah CBC. **Sandhill Crane**: thru season (multiple reports of 25-80) Rutherford Co (SGS, SZ, DBE, Richard Connors et al.); 18 Jan (25) Montgomery Co (Stanley York); 27 Jan (18) Robertson Co (TL); 6 Feb (63) Warren Co (SNM, NPM). **Whooping Crane**: from Nov - mid Jan (2) Bell's Bend, Davidson Co (Melinda Welton). **Greater Yellowlegs**: 26 Feb (1) Cross Plains, Robertson Co (TL), ers. **Franklin's Gull**: 8 - 11 Dec (1-2) Rutherford Co landfill (DBE, m.ob.). **Lesser Black-backed Gull**: 9-10 Dec (1, a 3rd year bird) Rutherford Co landfill (TJW).

Hummingbird - Longspur: **Calliope Hummingbird**: 21 Dec - 6 Jan (1 im male, ba) Nashville (SGS, CAS). **Merlin**: 3-5 Jan (1) Bark Camp Barrens, Coffee Co (SNM, m.ob.); mid-Jan (1) Rutherford Co (TJW); 26 Jan (1) Duck R Unit, Humphreys Co (WMP, NTOS). **Peregrine Falcon**: 15 Dec (1) Nashville CBC. **Loggerhead Shrike**: 26 Jan - 4 Feb (1-2) Walter S. Davis Blvd, Nashville (Phillip Casteel, FF); 16 Feb (1) White Co (Doug Downs). **Purple Martin**: 26 Feb (2) DeKalb Co (Judy Fuson), ers. **Tree Swallow**: 16 Feb (4) Boiling Pond, White Co (Doug Downs), ers. **Marsh Wren**: 3 Jan (2) Savannah CBC. **Gray Catbird**: 9 Feb (1) Nashville (Ed Schneider). **Lapland Longspur**: 5 Dec (2) Bell's Bend, Davidson Co (FF); 9-27 Dec (2-6) Eagleville, Rutherford Co (TJW, m.ob.); 20 Jan (11) Bark Camp Barrens, Coffee Co (SNM, NPM); 24 Jan (~30) Cross Plains, Robertson Co (TL).

Warbler - Siskin: **Common Yellowthroat**: 29 Dec (1) Clarksville CBC (SGS, CAS). **American Tree Sparrow**: 29 Dec (1) Clarksville CBC (SGS, CAS). **Vesper Sparrow**: 3 Jan (7) Savannah CBC; 9 Jan (5) Maury Co (WMP). **Lincoln's Sparrow**: 8 Dec (1) Rutherford Co (DBE). **Harris's Sparrow**: 29 Dec (1) Cross Bridges, Maury Co, Columbia CBC (WMP). **Dickcissel**: 28-30 Jan (1, at feeder) Smithville, DeKalb Co (Tommy Curtis, Virginia Curtis). **Brewer's Blackbird**: 4 Dec (20) Eagleville, Rutherford Co (SGS); 12 Jan (4) Smyrna, Rutherford Co (SGS). **Pine Siskin**: 19 Jan (~50) Williamson Co (Ed Schneider), max.

Locations: Percy Priest L, Davidson Co.

RICHARD L. KNIGHT, interim compiler.

CUMBERLAND PLATEAU / RIDGE and VALLEY REGION - - An active weather pattern this winter brought frequent fronts through the region, with roller-coaster temperatures that fluctuated from sub-freezing to 70 degrees. Precipitation in December and February was near the normal amount. However, heavy rains during mid to late

January throughout East Tennessee caused localized flooding and forced lake levels in the upper TVA system to rise 30 feet or more. Indeed, a total of 10 inches of precipitation made this the wettest January on record in the Tri-cities. Only two measurable snowfalls were recorded in the Tri-cities this season.

Snow Geese made an excellent showing across the region. The period of January into March this year was certainly the "season of the Redhead", as reports were well above normal. The highlight of the season was a cooperative Harlequin Duck which lingered for six weeks. An extraordinary collection of loons and grebes was found on Chickamauga Lake near Booker T. Washington State Park. Numbers of wintering Sandhill Cranes at Hiwassee Refuge were only about half of recent counts, with only 5700 on the CBC. The number of cranes attempting to over-winter has exceeded the seasonal carrying capacity of the local corn crop.

A nest of Common Ravens under the grandstands of Bristol Motor Speedway was apparently the first non-cliff nest site in Tennessee. More impressive was the fact that they withstood the hubbub of race week in mid-March. Overall, ravens were observed in six counties at sites away from their traditional haunts in the eastern highlands. A photo-documented Wood Thrush in Johnson City was just the third winter record in the state. A single feeder in Maryville hosted both an Evening Grosbeak and, later, a Rose-breasted Grosbeak.

A poor soft mast crop in northeast Tennessee resulted in a near total absence of Cedar Waxwings in January and February, as well as significantly reduced numbers of American Robins and Yellow-rumped Warblers. Poor cone or seed crops on pines, hemlocks, and some hardwoods in the same area accounted for the poor showing of boreal irruptives.

Goose - Grebe: **Greater White-fronted Goose**: 30 Dec - 24 Feb (3-11) Greene Co (DHM); 1 Jan (6) Hiwassee CBC. **Snow Goose**: 1-2 Dec (1 blue) Cove Lake SP, Campbell Co (Keith Watson); 4 Dec - 28 Feb (up to 17 white and 13 blue) Hiwassee Refuge (CM, m.ob.); 22-23 Dec (1 white) northern Greene Co (RLK); 30 Dec - 24 Feb (up to 5 white and 6 blue) near Wal-Mart Distribution Center (DHM); 18 Jan (1 white) Kingston Steam Plant (SGS); 20 Jan (1 white) Knox Co (Carole Gobert); 20 Jan (1 white) Hawkins Co (SHu); 21 Jan (2 white) Washington Co (TSM); 28 Jan (1 white) Warrior's Path SP, Sullivan Co (Neal Henson and Jean Henson); 21 Feb (1 blue) Washington Co (Glen Eller). **Ross's Goose**: 4-6 Dec (1) Knox Co (Dean Edwards); 18-19 Dec (1) Steele Cr Park (LCM, m.ob.); 22-23 Dec (1) northern Greene Co (RLK); 20 Jan (1) near Wal-Mart Distribution Center (DHM); 27 Jan (1) Hamilton Co (Jennifer Rydell). **Cackling Goose**: 8 Feb into Mar (1) Steele Cr Park (Don Holt, LCM, m.ob.); 15 Feb (4) Hiwassee Refuge (Rick Houlk). **Tundra Swan**: 17 Dec (1) Hiwassee Refuge (CM). **Blue-winged Teal**: 3 Jan (1) Washington Co (RLK). **Redhead**: representative counts; 2 Jan (24) Middlebrook L, Sullivan Co (RLK); 28 Jan (32) Warrior's Path SP, Sullivan Co (Neal Henson, Jean Henson); 3 Feb (119) Amnicola Marsh, Hamilton Co (David Hollie); 5 Feb (28 / 46, at 2 ponds) Blount Co (WB); 6 Feb (16) Paddle Cr pond, Sullivan Co (RLK); 18 Feb (37) Kingsport (Rack Cross); 21 Feb (82) Eagle Bend (Carolyn Snow); 21 Feb (41) Greene Co (DHM). **HARLEQUIN DUCK**: 31 Jan - 13 Mar

(1, female) Kingsport (BP, JP, m.ob., photos), just 5th state record but 2nd in Sullivan Co. **Surf Scoter**: 5 Dec (1) Boone L, Sullivan Co (RLK). **White-winged Scoter**: 4 Feb (1) John Sevier L (SHu). **Long-tailed Duck**: 17 Feb into Mar (1) L Breckenridge, Cumberland Co (Ed LeGrand). **Common Merganser**: 9-19 Feb (up to 5 males and 1 female) John Sevier L (SHu); 15 Feb (1 male) Chickamauga L (KAC). **Red-breasted Merganser**: 5 Dec (57) Boone L and (40) Middlebrook L, both in Sullivan Co (RLK), max. **Red-throated Loon**: 28 Jan - 15 Feb (1-2) Chickamauga L (KAC, m.ob.). **Pacific Loon**: 20 Feb - 1 Mar (1) Chickamauga L (SGS, m.ob.). **Horned Grebe**: 20 Feb (125) Chickamauga L (SGS), max. **Red-necked Grebe**: 10-17 Feb (1) Chickamauga L (KAC, m.ob.). **Eared Grebe**: 20 Feb (1) Chickamauga L (SGS). **Western Grebe**: 28 Jan - 24 Feb (1) Chickamauga L (KAC, m.ob.).

Pelican - Gull: **American White Pelican**: 16 Jan (2) Gunstocker Cr, Meigs Co (Rick Houlk). **Great Egret**: 8 Dec (1) Rankin Bottoms (MBS); 15 Dec (22) Chattanooga CBC, highest number recorded on this count; thru season (1-2) Blount Co (WB et al.); 18 Jan (1) South Mouse Cr, Bradley Co (David Chaffin); 7 Feb (1) Hiwassee Refuge (CM); increasing number of winter reports. **Osprey**: 1 Jan (1) near Wal-Mart Distribution Center (DHM); 15 Feb (1) Chickamauga L (Harold Birch et al.), ers. **Golden Eagle**: 2 captured and fitted with transmitters, 1 each on 5 Feb at North Cumberland WMA in Campbell Co and 9 Feb just barely into Alabama across from Franklin Co, TN, where 3 eagles had been remotely photographed (fide SGS); 4 Feb (1) Kingsport (Richard Kretz). **Virginia Rail**: 11 / 15 Dec (2) Standifer Gap Marsh, Hamilton Co (David Patterson); 15 Feb (1) Kingsport (Rick Phillips). **Common Gallinule**: 13 / 22 Dec (1, seen with coots) Phipps Bend (Roger Lemaster), rare in winter. **Sandhill Crane**: 2 Dec (8) Upper Douglas L (MBS); 8 / 26 Dec (1 / 3) Bible Refuge (DK, Mike Sanders); 22 Dec (3) Phipps Bend (Roger Lemaster); all east of usual areas. **Whooping Crane**: thru season (1-5+) Hiwassee Refuge (CM, m.ob.). **Greater Yellowlegs**: 1 Dec (1) Kyker Bottoms, Blount Co (Ron Hoff, m.ob.); 5 Jan (1) Knoxville CBC. **Least Sandpiper**: 2 Dec (12) Upper Douglas L (MBS); 1 Jan (42) Hiwassee CBC, max. **Dunlin**: 2 Dec (8) Upper Douglas L (MBS); 1 Jan (26) Hiwassee CBC, max; 5 Jan (2) Blount Co Knoxville CBC. **Ring-billed Gull**: 20 Jan (6100) Greene Co, in flooded fields (DHM), record high number; 22 Jan (1700) Rankin Bottoms (MBS), new high count. **Herring Gull**: 20 Jan (5) Greene Co (DHM), very unusual.

Owl - Falcon: **Long-eared Owl**: 15 Dec (1, heard only) Chattanooga CBC (Dan Jacobson, John Henderson); 17 Jan (1) Johnson City (SGS), seen in flight at close range. **Short-eared Owl**: 4 Dec - 6 Feb (1-3) Bible Refuge (Darrel Wilder, m.ob.). **Common Nighthawk**: thru Nov to 2 Dec (3) Knoxville, at University of Tennessee tracks (Chris Welsh). **Ruby-throated Hummingbird**: 5 Jan (1, a banded bird) Knoxville CBC. **Rufous Hummingbird**: 1 Dec - 1 Jan (1 female, ba) Hamilton Co (George Bartnik, Mark Armstrong); 2 Dec (1 ad male) Knoxville (Mark Armstrong), returning bird; plus 2 other banded birds on Knoxville CBC. **Merlin**: 1 Jan (1) Hiwassee CBC; 3 Feb (1) Hamilton Co (Tommie Rogers); 10 Feb (1) Greene Co (DHM). **Peregrine Falcon**: 7 Dec (1) Maryville (Carole Gobert), where one wintered last year; 9 Dec / 16 Feb (1) Greene Co (DHM); 2 Jan (1) near Bluff City, Sullivan

Co (RLK); 3-10 Jan (1) Limestone (RLK, RRK), fairly regular wintering site.

Shrike - Longspur: **Loggerhead Shrike**: 8 Dec (1) Phipps Bend (Rick Phillips); 8 Dec / 6 Feb (2 / 1) Bible Refuge (DK); 20 Jan / 9 Feb (1 / 1) separate Greene Co sites (DHM); thru season (1) New Market, Jefferson Co (Mark Labig); thru season (1-2 at 4 sites) Washington Co (RLK et al.). **Fish Crow**: 5 Jan (1) Knoxville CBC. **Common Raven**: 1 Dec (1) Bowmantown, Washington Co (RLK); 14 Dec (1) Steele Cr Park (LCM); 18 Dec / 9 Feb (1 / 2) Phipps Bend (DK / SHu); 6 and 10 Jan / 23 Feb (2) Limestone (RLK, m.ob.); 20 Jan / 24 Feb (1 / 2) Wal-Mart Distribution Center (DHM); 22 Jan (1) Rankin Bottoms (MBS); 23 Jan (1) Johnson City (RLK); 9 Feb thru season (pair at nest) Bristol Motor Speedway, Sullivan Co (TSM et al.); 10 Feb (2) Frozen Head, Morgan Co (Michael Hodge). **Purple Martin**: 28 Feb (2) Hamilton Co (Jennifer Rydell) and (2) Washington Co (Jim D. Anderson), ers. **Tree Swallow**: 2 Feb (1) Chickamauga L (David Hollie), a new early arrival date for the state; 3 Feb (1) John Sevier L (SHu); 5 Feb (2) Blount Co (WB). **Red-breasted Nuthatch**: modest numbers in Chattanooga and Knoxville areas, but very few in Tri-cities area. **Brown-headed Nuthatch**: 3 Dec (3) Cove Lake SP, Campbell Co (Nell Moore); 18 Jan (7) Kingston Steam Plant (SGS). **House Wren**: 10 Jan / 7 Feb (1) Washington Co (TSM / RLK). **Sedge Wren**: 15 Dec (1) Chattanooga CBC. **Marsh Wren**: 22 Dec (1) Phipps Bend (Roger Lemaster); 24 Feb (2) Wal-Mart Distribution Center (DHM). **Blue-gray Gnatcatcher**: 3 Feb (1) Kingsport (Ken Oeser). **Eastern Bluebird**: 7 Feb (45 in 1 flock) Washington Co (RLK), unusually large flock. **WOOD THRUSH**: 16 Feb intermittently thru 31 Mar, when found dead beneath a window (1) Johnson City (Darla Anderson, photo), 3rd winter record in state. **Gray Catbird**: 15 Dec (1) Alcoa, Blount Co (Tom Howe); 15 Dec (1) Chattanooga CBC. **Lapland Longspur**: from Nov thru 19 Jan (1-3+) Limestone (RLK, m.ob.).

Warbler - Grosbeak: **Orange-crowned Warbler**: 15 Dec / 1 Jan (1 each) Chattanooga and Hiwassee CBCs; 25 Dec (1) Johnson City (LCM, Gil Derouen). **Common Yellowthroat**: 15 Dec (1) Chattanooga CBC. **Palm Warbler**: 18 Dec (1) Phipps Bend (DK); 10 / 19 Jan (1) Limestone (BP, JP, RRK et al.); 18 Jan (1) Kingston Steam Plant (SGS); 20 Jan (1) Brainerd Levee, Hamilton Co (David Chaffin); 15 Feb (1) Chester Frost Park, Hamilton Co (Harold Birch et al.). **"Oregon" Dark-eyed Junco**: from Nov thru 12 Jan (1) Marion Co (J.N.Howard, Ella Howard, photo). **Rose-breasted Grosbeak**: 31 Jan (1, at feeder) Maryville (fide John Trent, photos). **Dickcissel**: 1 Jan into Mar (1, at feeder) Maryville (WB), separate site from grosbeaks. **Rusty Blackbird**: 16 Feb (157) Greene Co (DHM), max. **Brewer's Blackbird**: 19 Jan (12) near Dunlap, Sequatchie Co (TJW), traditional wintering site. **Purple Finch and Pine Siskin**: after moderate Nov influx, numbers declined significantly in Dec - Feb. **Red Crossbill**: 5 Jan (5) Haw Ridge Park, Anderson Co (Ed LeGrand), on Knoxville CBC. **Evening Grosbeak**: 24-28 Dec (1 female, at feeder) Maryville (John Trent, photo).

Locations: Bible Refuge, Greene Co; Chickamauga L, Hamilton Co; Hiwassee Refuge, Meigs Co; John Sevier L, Hawkins Co; Kingston Steam Plant, Roane Co; Limestone, Washington Co; Maryville, Blount Co; Phipps Bend, Hawkins Co; Steele Cr Park, Sullivan

Co; Upper Douglas L, Cocke Co; Wal-Mart Distribution Center, Greene Co.

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EASTERN MOUNTAIN REGION - - It was generally a mild winter. The average temperatures in December and January were about 5 degrees above normal, while February had near normal temperatures. Precipitation was near normal in December, well above average in January (surplus of 6.6 inches), and slightly below normal in February.

Redheads were more abundant than usual this season. Two White Ibises on the Elizabethton CBC were remarkable. There were three Golden Eagle reports. A Short-eared Owl was found on the Cades Cove CBC. It was not a good winter for irruptive northern finches, due in part to cone crop failures on most conifers. Purple Finches and Pine Siskins were generally scarce.

Waterfowl: **Snow Goose**: 2 Dec (1 blue) Great Lakes pond (TSM); 11 Jan - 9 Mar (1 white) Holston Valley, Sullivan Co (JHM, JWC, m.ob.). **Ross's Goose**: 17 Feb (1) Watauga R (TSM, Cathy Myers). **Blue-winged Teal**: 15 Dec - 24 Feb (1-2) Watauga R / Great Lakes pond (TSM, m.ob.). **Northern Shoveler**: 13-16 Jan (1) Fishery Park, Unicoi Co (Bryan Stevens, m.ob.); 14 Jan - 24 Feb (1) Great Lakes pond (TSM). **Northern Pintail**: 24 Dec / 24 Feb (2 / 9) South Holston L (MSa / Rack Cross); 5 Feb (1) Fishery Park, Unicoi Co (JHM). **Green-winged Teal**: 24 Dec (56) South Holston L (MSa), max. **Redhead**: multiple reports, impressive influx, representative high counts per site: 3 Jan (30) South Holston L (RRK); 3 Jan (15) Erwin, Unicoi Co (JHM); 14 Jan (8) Great Lakes pond (TSM); 27 Jan (36) South Holston R weir, Sullivan Co (RLK); 1 Mar (147) Wilbur L. (BP, JP). **Greater Scaup**: 2 Jan (2 males) South Holston L (RLK, m.ob.). **Common Goldeneye**: 26 Jan - 5 Feb (1 female) Watauga R (Harry Farthing, m.ob.), only report. **Common Merganser**: 8 Feb (1 male) Wilbur L (BP, JP). **Red-breasted Merganser**: 24 Dec (27) South Holston L (MSa).

Loon - Falcon: **Red-throated Loon**: 27-28 Dec (1) South Holston L (Darrel Wilder, m.ob.). **Horned Grebe**: 3 Jan (1) Erwin, Unicoi Co (JHM), unusual; 10 Jan (21) Watauga L, Johnson Co portion (RLK); 31 Jan (24) South Holston L (RLK), max. **Red-necked Grebe**: 2 Jan (1) South Holston L (MSa, m.ob.). **Eared Grebe**: 5 Dec - 3 Jan (1) South Holston L (RLK, m.ob.), species present for 19 straight years. **Green Heron**: 15 Dec (2) Watauga R (JHM et al.), on Elizabethton CBC. **WHITE IBIS**: 15 Dec (2 im, seen in flight) Hampton, Carter Co (Gary Wallace, BP, JP), on Elizabethton CBC. **Golden Eagle**: 28 Dec (1 im) South Holston L (RRK); 1 Feb (1 ad) Big Bald Mtn Unicoi Co (fide JWC), photo by trail camera at deer carcass; 11 Feb (1 ad, captured and fitted with transmitter) Unaka Mtn just 200 yards into North Carolina from Unicoi Co, TN (fide SGS). **Sandhill Crane**: 27 Dec (16) / 4-19 Feb (2) South Holston L (BP, JP, JWC, m.ob.); 29 Dec (15) Cades Cove CBC. **American Woodcock**: 5 Feb (1, displaying) near Milligan College, Carter Co (FJA), ers.

Forster's Tern: 11 Jan (1) South Holston L (JHM), 2nd winter record in NE TN. **Barn Owl**: 15 Dec (1) Elizabethton CBC (FJA). **Great Horned Owl**: 29 Jan (1 ad on nest) Bee Cliff, Carter Co (RLK), traditional nest ledge used since 1970s. **Short-eared Owl**: 29 Dec (1) Cades Cove CBC (Susan Hoyle, Kris Johnson). **Merlin**: 5 Jan (1) Watauga Dam (RRK, BP, JP); 12 Jan (1) South Holston L (JWC et al.). **Peregrine Falcon**: 15 Dec (1) Elizabethton CBC (FJA).

Shrike - Siskin: **Loggerhead Shrike**: thru season (1) Holston Valley, Sullivan Co (m.ob.). **Tree Swallow**: 23 Feb (2) Watauga R (Gary Wallace), ers. **Lapland Longspur**: 5 Dec (1) South Holston L (RLK). **Chipping Sparrow**: 9 / 29 Jan (12+) Elizabethton (RLK). **"Pink-sided" Dark-eyed Junco**: 21 Dec (1) near Wilbur L (BP, JP, photo), western form, rare in east. **Purple Finch**: 16 Feb (30+) Shady Valley, Johnson Co (Todd Eastin), max. **Red Crossbill**: 4 Dec (1) Watauga Dam (RLK); 8 Jan (12) Cades Cove (WB). **Pine Siskin**: few, scattered reports; 24 Jan (75) Pitman Center, Sevier Co (Keith Watson), max.

Locations: Cades Cove, Great Smoky Mountains National Park; Great Lakes pond, Carter Co; South Holston L, Sullivan Co; Watauga Lake and Resevoir, Carter Co; Wilbur, Carter Co.

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CM - Charles Murray
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JP - Jean Potter
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INSTRUCTIONS TO AUTHORS

The Migrant records observations and studies of birds in Tennessee and adjacent areas.

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